

1976

Spiral-process approach to assess consumer's food purchasing behaviors

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1976

**Spiral-process approach to assess consumer's
food purchasing behaviors**

by

Herma Barclay Williams

**A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY**

Major: Home Economics Education

Approved:

Signature was redacted for privacy.

In Charge of Major Work

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For the Graduate College

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Ames, Iowa**

1976

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DEDICATION

To Eric Williams my best friend and husband for patience, inspiration, team spirit and love; to my parents Reverend and Mrs. Fitz Barclay for their prayers and faith; and to my sisters and brothers for their constant encouragement.

INTRODUCTION

In a time of world shortages and soaring inflation, education of consumers has become an issue which cannot be ignored. The past two decades has brought a revival of the consumer movement with public demands for information, legislation and enforcement. Although consumer legislation and improved enforcement procedures are powerful weapons in the fight for consumer justice, they have only been as effective as an aware and informed public has made them.

According to Aaker and Day (1974) the term "consumerism" identifies the modern consumer movement launched in the mid-1960s by the concerns of Rachel Carson, regarding the environment, Ralph Nader's interest in consumer protection and by President Kennedy's efforts to establish the rights of consumers: to safety, to be informed, to choose and to be heard. Consumerism has become action oriented and more than an analysis of problems. It has included the need for consumer education and demands for information and protection.

Dameron (as cited in Aaker and Day, 1974) states:

The Consumer movement may be described as the organizations, activities and attitudes of consumers in their relation to the distribution of goods and services. It gives new emphasis to the consumer's right to full and correct information on prices on quality of commodity, and on cost and efficiency of distribution. The movement displays the efforts of consumers themselves. Aware of their ignorance in buying, skeptical of the guardianship of private business, and doubtful as to whether or not they are getting their money's worth, they have become

articulate. . . . in reality it is a series of efforts having common the feeling of dissatisfaction with goods and services and the marketing practices involved in their distribution. Coupled with this protest is a demand for information and for protection in the market.
(p. 5)

Marketers and psychologists have developed theoretical and physical models to depict consumer behavior, however only recently have educators begun to develop models and frameworks for curriculum development. Educating consumers has become vital because of the competencies it can provide in dealing with alternatives and decisions in the marketplace. It can assist individuals in becoming aware of their rights and responsibilities in order to function effectively. However, the consumer must comprehend the effect of consumer decisions on the family, community and nation. Awareness of the potential impact of decisions when one product is purchased over another should also be a part of the consumer's repertory. In addition, the consumer should become aware of individual strength and the importance of group action in order to improve the marketplace and society. Therefore, educating the consumer to be more responsible in the marketplace is a role of the educator.

Definition of Consumer Education

Consumer education has been defined in a variety of ways. The United States Office of Education (1975) defines it as "an effort to prepare persons for participation in the marketplace by imparting the understanding, attitudes, and skills which will enable them to make rational and intelligent consumer decisions in

light of their personal values, their recognition of marketplace alternatives, and social, economic, and ecological considerations." (p. 2).

According to Murphy et al. (1974, p. 10) it is "the process for gaining satisfaction through the considered use of personal and environmental resources. It promotes the development of a system for handling the continuous flow of consumer information while building consumer skills, principles and understandings. At the same time, it assists the individual in his translation of past experiences into generalizations for future application. Its worth must be measured in terms of its contribution to the improved well-being of present and future generations." Schoenfeld (1972, p. 2) indicated that consumer education "is not a science or discipline in the traditional sense, or a list of rational principles that, once learned, will ensure the wisdom of consumer choices, but rather, it is a continuing process of learning that begins at the preschool level and lasts a lifetime." It emphasizes the importance of personal decision-making, helping the individual analyze available alternatives by weighing the short-range and long-range consequences of his marketplace choices for himself and for society. Although many definitions of consumer education have been proposed one which is often cited was developed by the President's Committee on Consumer Interests (1970, p. 2): "it is the preparation of the individual in the skills, concepts and understandings required for everyday living to be achieved within the framework of his own values and maximum

utilization of and satisfaction from his resources." According to Murphy et al. (1974) "many definitions of consumer education are broad enough to encompass all of education, however the common goal is to improve the individual's ability to carry out his role as a purchaser of consumer products. Therefore consumer education may be characterized as attempting to enhance the consumer's position in the marketplace by providing the consumer with information" (pp. 2-3).

The Need for Consumer Education

The training of consumers is just as crucial today as it was three decades ago. In 1944, the National Association of Secondary School Principals set forth what is believed to be the 10 imperative needs of all youth. One of these imperative needs, "all youth need to know how to purchase and use goods and services intelligently," applies specifically to consumer education. Consumer advocate Ralph Nader (1975) indicates that "students are being short changed during their years at school, because educators fail to provide instruction in real-life problems. As consumers, students are not given strategies for dealing with the political economy. Students will spend a large part of their lives involved in consumer activities; however, during their years of schooling most students are taught very little that will help them deal effectively with the marketplace. Students know nothing about insurance or banking industry, they are not taught how to handle their own money

or to protect their own health. They don't know how to deal with consumer rights; where to go to have grievances resolved or how to get information. They do not even know what questions to ask" (pp. 37-39).

On November 19, 1975, President Gerald R. Ford published the following statement from the White House:

In the last decade, the Buyer's Bill of Rights has become a way of life in our country. These rights include information, choice, safety and the right to have complaints satisfactorily resolved.

The time has now come to recognize a fifth right--one without which consumers cannot gain the full benefit of the other four. This is the right to consumer education.

It is my earnest hope that consumer education will become an integral part of regular school instruction, community services and educational programs for people out of school. Only in this way can we ensure that consumers have the assistance necessary to plan and use their resources to their maximum potential and greatest personal satisfaction.

In response to the need for consumer education, in 1970, the President's Committee on Consumer Interests served as a task force to develop The Suggested Guidelines for Consumer Education, Kindergarten through Twelfth Grade and also An Approach to Consumer Education for Adults; both were developed to provide educators with curriculum guides to be used in designing their own consumer education state and local programs. In developing both guidelines, the committee emphasized that consumer education was not merely a rhetorical exercise in buymanship, but a continuing lifetime learning experience. Consumer education should provide a useful frame of reference not only for the future but also for the sometimes

difficult and perplexing present. Extensive efforts must be made to incorporate consumer education into educational programs so that consumers can learn to function effectively.

In 1970, Uhl and Armstrong (1970) surveyed consumer education programs in the United States; the study was financed by the U.S. Office of Education. The investigation conducted by an interdisciplinary team of social scientists was primarily concerned with the institutional structure of the national consumer education effort. A secondary purpose was to provide information useful for curriculum design and evaluation. The specific questions that composed the framework of the investigation were: Who sponsors and develops consumer education programs, what are their objectives, how is the audience defined, what is the consumer taught, and what problems are evident?

The survey results generally confirmed the domination of consumer education by home economics, distributive and business education, and social studies curriculums. Out of the twenty topics used in defining and surveying consumer education, the most frequently taught were: the consumer in the economy, family income management, and consumers in the market. Other topics were: credit saving and investments and food consumption. The results also indicated that there was little evidence of overall planning and coordination of the education of the consumer among the curriculum areas.

Loftsgard (as cited by Murphy et al., 1974) reported that the need for consumer education has been recognized by various facets of

society. In the Vocational Education Amendments of 1968, the United States Congress charged each state with providing consumer education in federally supported vocational education programs. Many educators contacted the United States Office of Education for materials to use in teaching consumer education. In response to the United States Office of Education's request for materials to help learners function in their roles as consumers, Murphy and Associates (1974) developed consumer curriculum modules funded by the United States Office of Education. The purpose of the project was to develop flexible teaching curriculum modules in consumer education which could be adopted by teachers to serve a variety of learners of varying ages, socioeconomic levels, cultural backgrounds and lifestyles.

Although educators have joined with marketers and psychologists to develop models of consumer behaviors, there is no evidence that any of the models developed have been tested with a specific subject area to more accurately delineate consumer behavior.

Therefore the purpose of this study was to test a specific consumer subject area with the Consumer Education Modules A Spiral-Process Approach developed by Murphy et al. (1974). Specific objectives for the study were to:

1. Develop a matrix of concepts and food purchasing behaviors based on the four spiral processes as delineated in the Consumer Education Modules (Murphy et al., 1974).
2. Develop an achievement test to measure knowledge and comprehension in the subject area of purchasing food,

reflecting the four processes: inquiry, valuing, decision, action.

3. Develop an observation checklist to assess actual food purchasing behaviors.
4. Assess the respondents' competencies in food purchasing behaviors based on responses to the achievement test and the observation checklist.
5. Investigate the relationship between selected demographic variables and the scores on the food purchasing behavior checklist and the achievement test.
6. Test and evaluate the four processes for the existence of a hierarchical structure of consumer behaviors related to purchasing food.

The study was limited to the subject area of purchasing food. The sample is limited to homemakers enrolled in the University of Illinois Cooperative Extension Service, Consumer and Homemaking Education Program. The subject matter taught in the various county extension service programs is relatively homogeneous, but with variations in adaptations.

The assumptions of the study are: (1) the four processes in the Consumer Education Modules A Spiral-Process Approach (Murphy et al., 1974) are valid; (2) the data collectors will be able to obtain valid responses from the homemakers in the sample.

REVIEW OF LITERATURE

During the past decade, psychologists and marketers have developed several models of consumer behavior; however, only recently have educators begun to develop curricular models to serve as frameworks for teaching consumer education. A search of the literature did not reveal any studies which tested a specific subject area with any of the available models of consumer behavior, the development of a hierarchical matrix of concepts and behaviors developed from the Consumer Education Modules A Spiral-Process Approach (Murphy et al., 1974) became the primary purpose of this study. Additional purposes were to develop instruments to evaluate the existence of a hierarchical pattern within the identified behaviors, to assess the respondent's food purchasing knowledge and to investigate the relationship between demographic variables and the respondent's food purchasing knowledge and actions.

Therefore, the review of literature focuses on (1) selected marketing and psychological models of consumer behavior, (2) marketing studies related to food purchasing needs of consumers, (3) recent research studies in consumer education, and (4) evaluation studies of consumer and homemaking programs.

The marketing and psychological models were reviewed first in an attempt to comprehend buyer behavior by studying the relationships among the variables delineated. Secondly, five market research studies reviewed relate specifically to the subject area of purchasing food, selected as the content area for this study.

The third area consists of nine recent consumer education research studies. Three assessed consumer education knowledge and attitudes, two measured knowledge of consumer concepts, three were on the development of consumer education tests, and one study dealt with levels of consumer competencies as a basis for curriculum planning.

The final section is a discussion of the evaluation of four consumer and homemaking education programs which relate specifically to the consumer education program from which the sample for this study was selected.

Models of Consumer Behavior

Engel, Kollat and Blackwell (1973) reported that consumer behavior is a relatively new discipline, dating back less than fifty years, with the majority of research conducted during the last decade, producing remarkable efforts toward the advancement of knowledge in consumer behavior. Nicosia (1969) proposed that in order to gain an understanding of the current knowledge of consumer behavior and the problems facing those who may want to use this knowledge, it is important to review the historical perspective. In an examination of historical literature, Nicosia indicated that interest in consumer behavior dates back to speculations and insights of Veblen. However, during the nineteen twenties and thirties, a number of approaches to the study of the consumer began to appear. The combination of formal mathematical economics and statistics produced

a new discipline, econometrics, which gave insight into problems such as estimation of demands for a variety of product classes. Also during the twenties, another group of research traditions emerged, based on Watson's stimulus-response view of man (Nicosia, 1969, p. 11).

Later developments in psychology and social psychology began to affect consumer research, and two schools of thought were established. One group emphasized interplay between variables interesting to economists, as income, prices, and mental states such as expectations and intentions to buy. The other group emphasized the study of the relative roles of different channels of information and influences such as mass media. Intermittently, a number of psychologists, social psychologists and marketers have used this knowledge to explain factors and processes underlying acts of purchase. In the late fifties there was a departure from work on product demands, signaled by the introduction of new statistical techniques, such as stochastic models, which focused on the act of purchasing a variety of brands within a product class (Nicosia, 1969, p. 11).

Consumer researchers began to address their efforts to the question of mapping out the possible relationships among factors bearing upon the act of purchase. Two major research efforts were undertaken in this direction. Researchers combed through the psychological literature in the area of stimulus-response and learning, worked out a list of factors that have been shown to have relevance for consumer research and put these factors together in flow charts. These charts described the process of interactions among variables

that may lead to the act of purchase by recording which variables are known to interact with which other variables, and then revealing which interactions need to be and have not yet been studied (Nicosia, 1969, p. 15).

Nicosia (1969) proposed a further step; a formal mathematical specification of networks of interactions. This is done by translating the hypothesized network into formal models. He translated his original flow charts into formal models by using the language of differential equations.

Some researchers emphasized constructs from learning theory, others emphasized constructs such as predispositions, attitudes, motivations and cognitive processes underlying formation and change in these constructs. In spite of differences, these works suggest an approach to the study of the act of purchase relating to the decision-making process. The stochastic and other models tell us the probabilities of possible future states of behavior, the decision process approach tells us about the dynamic structures that underly behavior (Nicosia, 1969, p. 17).

According to Katona (1960) the work by consumer researchers attempts to show how stimuli are internalized and reacted upon by decision processes, how these reactions may, over time, lead to a particular kind of behavior, how the consequences of a certain behavior is internalized and reacted upon by decision processes leading to future behavior. The decision process tradition could be seen as an attempt to explain observed probabilities. If the explanations are in the form of blueprints, they can be used to

improve prediction of an event's behavior and/or to improve its behavior, and/or to "cure" it in dysfunctional cases.

Nicosia (1969) concluded that the usefulness of the reviewed research for consumer educators may evolve in a number of ways. The educators of consumers can use the knowledge from both consumer and consumption behavior researchers. The consumer behaviorist provides understanding of how different individuals deal with different environments in a variety of ways and consumption behaviorists provide an understanding of how different environments operate and influence different individuals.

Marketing models

Consumers satisfy their wants and needs by purchasing a wide variety of goods and services. They have many reasons for buying and they are influenced by many forces in the marketplace, in the home and in their everyday environments. Comprehending buyer behavior is essential for marketers, consumer psychologists, and consumer educators because of the insights it provides into the decision-making processes of consumer behavior.

According to Holloway and Hancock (1973) the task of marketing is to gain consumer acceptance for the offering and to deliver it to the consumer. The task is not only with the introduction of a new product, but also with established products. The ideal result is profit for the firm and satisfaction for the consumer. The marketer facilitates the purchase process by bringing buyer and seller together, but to do so he must know more than what people

purchase. He also has to understand buyer behavior. Why do people buy what they buy? Why do they not buy? Where do they buy? What factors influence their decisions? What is the actual decision-making process? Some insight into these questions is provided through the development and comprehension of models of consumer purchasing behavior (p. 248).

Engel et al. (1968) suggested that a model is a replica of the phenomenon it is intended to designate; it specifies the elements and represents the nature of the relationships among these elements. It can provide a testable map of reality, and its utility lies in the extent to which the model makes possible a successful prediction of resulting behavior or outcomes. Relations among elements often are only hypothesized because of the absence of needed research. However, Engel et al. (1968) notes several significant advantages which make models a necessity if progress is to be made.

- 1) A frame of reference is provided for research. Through descriptions of elements and relationships, gaps in information and potential areas for fruitful inquiry are identified with clarity not otherwise possible.
- 2) Research findings can be integrated into a meaningful whole. When a model is available of the entire process of consumer behavior, it becomes feasible to utilize research findings from a variety of behavioral sciences with greater sophistication and precision.
- 3) Models become useful in theory construction. Researchable hypotheses flow readily from a carefully designed model, and a basis is thus provided for extending knowledge.
- 4) Explanations are provided for performance of the system. A mere description of the motivational determinants of buyer action is of little use; it is necessary, rather,

to explain relations and thereby gain an ability to predict outcomes under various sets of circumstances (pp. 35-36).

Lazer (1962) defined a model as simply the perception or diagramming of a complex or a system. It involves translating perceived relationships into construct symbols, and perhaps, mathematical terms. Models are basic for marketing theories because they are the axioms or assumptions on which the theories are founded. Many marketing models are based on suppositions or assumptions, yet sometimes these assumptions do not correspond exactly with the real marketing world. Usually they are employed to simplify an existing marketing situation (p. 9).

Markin (1974) indicated that the buying process can be examined in great detail through the development of a model, although the buyer operates as a whole person. Throughout the buying process there is some amount of planning, handling risk, reacting to habit and confidence in sellers, and registering satisfaction upon purchase. According to Markin models of buying behavior are useful in developing an understanding of the buying process. Because a buyer is influenced in many ways by many forces, the decision process varies a great deal. Some decisions are made with very little thought and others require considerable deliberation (p. 79).

Models can be simple or complex structures; and they invariably have several purposes. One central purpose is to help man think rationally. They do this by enabling him to take a complex process or phenomenon, in itself too large for analysis or manipulation, and

reduce it to what the analysts believe to be a series of meaningful variations. The variables are divided into at least two categories, independent and dependent variables. Secondly, a model can be an important tool for conveying a vast amount of information, because it is often an abbreviated version of a larger statement or configuration. In this way information can be conveyed with a high degree of precision and efficiency. Third, models permit us to observe and measure many characteristics, and through continued observation and measurement, a deeper and fuller understanding of consumer behavior is possible. Fourth, the use of models permits us to determine which variables in our model are really important ones, because the construction of a model is very often followed by testing to verify its relationship to the world. Models are important to theory in that they permit us to describe, explain and predict the behavior of complex phenomenon. In addition, model building and testing ultimately lead us to the point where we gain insight not only into the nature of the variables involved, but into their complex interactions (Markin, 1974, p. 79).

Lazer (1962) indicated that in model building there are two approaches which are directly related to marketing strategies: abstraction and realization models. In abstraction, a real world situation is perceived and it is mapped into a model. The model builder must perceive a marketing situation in such a way that it permits him to recognize the relationships between a number of variables. These relationships may then be quantified through the

use of available records and data, experiments or simulations. The basis for the model is then obtained; once determined, it may be applied to the real world. In realization, the process of model building is reversed. The model builder starts with a consideration of a logically consistent conceptual system. Then some aspect of the real world can be viewed as a model of the system. It is the process of going from the logical system to the real world (p. 10).

In a review of four different models of buyer behavior, Holloway and Hancock (1973) reported that knowledge of buyer behavior is still in its infancy. Because human behavior is extremely complex a model can only be a beginning for understanding the process; however, it is important that researchers continue their efforts to shed additional light on the entire process of buying.

The Katona model is called the Katona Decision Process: A Flow Chart. One concern of Katona was the analysis of motives, habits, attitudes and expectations of consumers in order to better understand the diverse forms of economic behavior. An examination of the Katona model indicated that the main components of consumer decision process are the act, or overt behavior, the stimuli, and the intervening variables. In order to predict consumer behavior three sets of factors must be understood. The first, enabling conditions, make it possible for consumers to buy, and include income, assets and ability to borrow. Precipitating circumstances, which reorient spending habits, include income changes, marriage, childbirth, moving breakdown of old goods and learning about new

products. The third, attitudes, can be thought of as a filter through which the first two sets of factors must pass before they can influence the behavior of consumers, and include plans, motives, generalized opinions and expectations. Holloway and Hancock (1973) conclude that the Katona model is a structural approach that explains the way in which a purchase decision is made. The model shows the environmental stimuli coming into contact with the internal forces that influence buyer behavior. The enabling conditions such as income make it possible for a buyer to make a purchase. Precipitating conditions are triggers and the intervening variables in the model are the forces, such as attitudes, that influence the decision.

An analysis of the Engel model (as cited in Holloway and Hancock, 1973) indicated that stored in memory are various personality characteristics. Each individual has a certain way of behaving and responding that characterizes the person in a unique way. Patterns of behavior perceived as successful in satisfying needs or drives become learned and stored in memory. These are designated as motives. In the process of acting, everyone develops ways of reacting and behaving, which are called response traits. The predispositions or personality traits which are stored in memory affect one's perception and behavior. They also interact with stored past experiences and information to form values and attitudes. The inputs into the system are regarded as stimuli. These stimuli are two basic types, physical and social. The system must then be turned on before

behavior can occur; this is the function of arousal which is related to sensory receptors. Once the system is active or attentive to relevant incoming stimuli, the individual perceives or sizes up inputs selectively through a process of comparison. The inputs are compared with all that is stored in memory. Perception is selective in two ways: (1) attention, and (2) distortion. Selective attention refers to stimuli that are relevant and distortion refers to inconsistent stimuli. Action results if it is perceived that some change is necessary to improve the present state of the system and to restore the balance that was disturbed by arousal. If the individual can act problem recognition occurs and then "go" is designated; otherwise the process halts at this point. "Yes halt" refers to recognition but with no action. When a problem is perceived and the individual has little knowledge of the alternatives for action, then the search for alternatives begins and continues until it appears that enough is known to proceed. The next step is the evaluation of alternatives. Finally the preceding steps can lead to the purchase processes or the decision to buy. Matters do not cease once a decision is made to purchase or not to purchase: two additional things happen: (1) perceived doubts about the wisdom of the action can trigger a search for information to justify the decision, and (2) the outcome may change circumstances sufficiently to serve as a stimulus for further behavior, which triggers further behavior indicated as a new input (p. 249).

Another model, the Nicosia Model, is a stimulation of the

consumer decision-making process. Nicosia uses the technique of computer flow-charting to show the various forces involved and the relationship of those forces. The model is basically a computer program that describes an invariant structure of consumer behavior. The structure is made up of four building blocks and their functional relations. The fields are atemporal in character; each should be seen as a subprogram of the overall computer program. A number of invariant cognitive and other psychological activities operate throughout the structure; physical and cognitive perception operates upon the advice received (Holloway and Hancock, 1973, pp. 252-53).

Engel, Kollat, and Blackwell (1968) suggest that the first truly integrative model of buyer behavior was proposed by Howard in 1963. Its basic contribution lies in a systematic and thorough utilization of learning theory. Howard introduced the useful distinction between true problem-solving behavior, limited problem solving, and automatic response behavior. This pioneering effort did much to solidify and enhance the interdisciplinary approach to analysis of buyer behavior. In order to strengthen the conceptual basis of the model and to clarify practical implications, elaboration was required. A meaningful step was taken to elaboration by Howard and Sheth in 1969. More variables were included, and the linkages between variables were stated with sufficient precision that this contribution stands as a notable advance toward the development of theory in the area of marketing thought (p. 36).

The Howard Sheth Model (as cited by Engel et al., 1968)

identifies the theory of buying behavior as consisting of two sets of hypothetical constructs: learning constructs and perceptual constructs. The learning constructs are: motives, choice criteria, brand comprehension, attitudes, confidence, intention, and satisfaction. The perceptual constructs are: stimulus ambiguity, attention, perceptual bias, and overt search. The hypothetical constructs are linked to form a network of constructs. This interrelationship is indicated in two ways. First, two common examples of buying behavior are described and explained by the use of the hypothetical constructs. Second, the dynamics of change over time is elaborated using the decision-making framework. Decision-making over time is classified into three phases: extensive problem solving, limited problem solving and routinized response behavior.

Psychological models

Because of its close relationship with the study of human behavior, consumer behavior theory has borrowed heavily from the behavioral sciences. The field of social psychology offers the greatest opportunity to further understandings of consumer behavior. Schew (1973) described and evaluated four models of behavior that have been developed by social psychologists:

- 1) the McClelland model, stressing the theory of achievement motivation
- 2) the Goffman model, role theory
- 3) the Festinger model, the theory of cognitive dissonance

- 4) the Riesman model, the inner- versus other-directed individual.

The McClelland model proposes that the theory of achievement motivation is one class of theories which attributes the strength of a motivation to the cognitive expectation that the activity will produce a particular consequence and also to the attractiveness or value of that consequence to the individual. The theory deals only with an important limited type of behavior, achievement-oriented activity. This type of activity is usually undertaken with the idea that performance will be justified against some standard of excellence, and any situation which affords a challenge to achieve must also pose the threat of failure. Therefore, achievement-oriented activity is affected by the conflict between the tendency to achieve success and the tendency to avoid failure. The theory of achievement motivation focuses mainly upon the resolution of these two opposing tendencies, both of which are inherent in any achievement-oriented activity.

In the theory of achievement motivation it is important to recognize the particular individual's personality, since the tendency to achieve success depends on certain personality characteristics intrinsic to each individual. In addition, situational variables also must be considered, since the individual does not reside in an isolated environment in which his actions are directed by only one achievement motive. In spite of these problems, the theory of achievement motivation offers an interesting motivational approach

of importance for marketing managers (Schew, 1973, p. 31).

The Goffman model, borrowed directly from the theater, explains the role theory and views persons as actors playing a role. In the presence of others, the actor is seen to organize his activity in order to express an impression that he wishes to convey. This expression is known as the role enactment. The object of the study of role theory is to increase understanding of role enactment of individuals in social settings. The focus is on overt social conduct. Role enactment is the major dependent variable in role theory and is the resultant of role expectations, role location, role demands, role skills, self-role congruence and the audience.

The product offering, goods and services, provides the consumer with what Goffman calls the setting. Products are vehicles for conveying the impression one tries to impose on the audience. Each product conveys a symbolic representation through its perceived appearance. Effective marketers should mold their product into an image that will fit properly into the "setting" surrounding the consumer's perceived role expectations. To provide the consumer with the proper "props" to perform his role, marketers should be aware of their product's image and should shape that image to match the consumer's self-image. Research has shown that congruence between product image and self-image provides a suitable means for segmenting markets (Schew, p. 33).

In the Festinger Model a third explanation of consumer behavior can be derived from a family of concepts called cognitive consistency

theories: balance theory, congruity theory, and particularly the theory of cognitive dissonance. Balance theory focuses mainly on an individual's perception of three social elements: the person himself, some other person, and some event, idea, or object. Congruity theory, developed independently of balance theory, deals with the direction of attitude change. The theory centers on communication sources and objects or concepts which are related by either an associative likes or dissociative dislikes assertion. The theory of cognitive dissonance, like balance theory and congruity theory, holds that an individual strives to maintain internal harmony among his opinions, values, attitudes, and knowledge. Dissonance theory, however, deals only with inconsistency which arises after a decision is made.

Consideration of the marketing implications of the theory of cognitive dissonance leads to more questions than answers. It has been said that knowledge of situations in which dissonance can occur is not always useful in determining whether dissonance does occur. Moreover, in most situations, consumers find prior experience, personality variables, social support, and other situational factors dominating the arousal of any dissonance. In addition, the value of some empirical research has been reduced by criticism of the measurement of cognitive dissonance and of the experimental designs employed (Schew, p. 36).

The Riesman Model theory claims that human beings can be grouped into three major types of social character: tradition-direction,

inner-direction, and other-direction. By social character, Riesman refers to "ways of behavior" or "modes of conformity to the culture and society" in which the individual is operating. Riesman's thesis is that each society or culture shows one of the three types depending upon its particular phase of development. In each phase, Riesman contends, society enforces conformity and molds social character in a definably different way. The tradition-direction society is characterized by general slowness of change, dependence on familial ties, low social mobility, and a rigid value structure. The inner-direction society is characterized by increased social mobility, less security for the individual, rapid accumulation of capital, industrialization, and almost constant expansion--expansion of goods, people, exploration, colonization, and imperialist; and the other-direction society finds a world of social mobility and mechanization such that production is no longer a problem (Schew, p. 37).

Schew (1973) concludes the discussion of the four social psychological theories by stating that the goal of the study of consumer behavior is to properly describe, explain and ultimately predict human actions in the marketplace.

Selected marketing and psychological models were reviewed to provide deeper insights into the structuring of variables related to consumer activities. Through model building and testing, researchers will be able to comprehend the nature of these variables and complex interactions of consumer behavior. This information will enable educators to provide broader learning opportunities for students in consumer-related disciplines.

Consumer Education Curriculum Modules
a Spiral-Process Approach

The literature concerning consumer behavior described viewpoints and several models drawn from marketing and psychology; however, a comprehensive understanding of consumer behavior requires an understanding of concepts from several disciplines. Recently, consumer educators have begun to attempt the task of synthesizing and integrating a number of concepts from several disciplines into a single framework. One recent effort was development of the Consumer Education Modules a Spiral-Process Approach by Murphy et al. (1974). According to Murphy, the purpose was to develop flexible teaching curriculum modules in consumer education which could be adopted by teachers to serve a variety of learners of varying ages, socioeconomic levels, cultural backgrounds and lifestyles.

The curriculum project was carried out through a three-state cooperative arrangement, which brought together resources and expertise needed to develop consumer education curriculum materials. A primary emphasis was on the structuring and organizing of the area of consumer education. The project objectives were, to identify and review available curriculum materials in consumer education and to determine gaps in the material needed to serve youth and adults; to develop teaching consumer education curriculum modules to supplement present curriculum materials, and to disseminate the modules to educators (p. 2).

The first task in the development of the modules was an extensive review of curriculum materials in consumer education to provide the background for developing a framework. The resulting framework consisted of the development of a variety of behaviors displayed by consumers, which were grouped along a continuum from egocentric to other-centered. The continuum was divided into four levels to aid in identifying the learner's progress.

Level one consumers choose, buy and use according to their needs and wants; level two consumers are part of the current consumer movement, they have knowledge of the decision process; level three consumers show integration of personal values with judgements and level four consumers can set priorities and exercise influence upon the public and private sectors of the economy, they are involved in the role of public decision-maker (p. 5).

As the learner moves through these levels, his consumer behavior matures. To progress from level one to level four, the learner must go through four basic processes identified in the framework: inquiry, valuing, decision and action. These four processes and six sub-processes, recognize, consider, clarify, organize, analyze, and apply, are the basis for the continuing development of consumers. They repeat to form a spiral throughout the course of consumer education. Each of the four basic processes implies a cluster of inter-related skills which are developed in the modules.

Marketing Research Studies

Five recent marketing research studies were reviewed in an attempt to gain some insights into the role of the consumer in the marketplace and to ascertain some of the problems and frustrations

facing the consumer. These studies provide actual situations and responses from consumers which can be of use to consumer educators for teaching and learning opportunities.

The U.S. Department of Agriculture (1972) contracted with Chilton Research Services to conduct a study of the food store conditions, which point to inadequacies in the inner city food store systems, which prevent it from satisfying residents' needs and preferences of residents in the low income sections of the Cleveland, Ohio, Standard Metropolitan Statistical Area (SMSA). Store facilities in higher income sections of Cleveland were used for comparative purposes.

In the low income area very small food stores comprised a high proportion of the stores. Prices were generally higher, variety of products more limited, quality of food assortment poorer, and service more restricted.

The primary purposes of the study were to examine charges against food merchants in the inner city area and to make available some research data that could be used in providing low-cost nutritious food and adequate facilities for serving the poor. The charges against the merchants were:

Prices for comparable products are higher in the inner city; quality of merchandise was lower than merchandise sold in other areas; stores in the inner city were smaller, dirtier, less well stocked, and less well maintained than stores in other areas; damaged items or perishable items of fading quality were trans-shipped from chain stores in other areas to chain or other stores in the inner city; and food chains place their least efficient personnel in inner city stores (p. 1).

The specific objectives were to: (1) determine whether there were differences in food retailing system that serves Cleveland's low income area compared with the one that serves the higher income area and to identify and describe the existing inadequacies; and (2) identify and formulate alternatives to the present system that would operate to reduce identified inadequacies and better serve the needs of low income families while providing for an economically healthy food retailing business community (pp. 1-2).

Personal interviews were conducted with homemakers in an area probability sample of 318 households in the Cleveland SMSA areas. The low income area, identified as area A, consisted of 76 census tracts in Cuyahoga County which had been designated as poverty areas by the Office of Economic Opportunity. The remaining 265 census tracts in Cuyahoga and the 24 tracts in Lake County were designated as the higher income area, or area B. Interviews were conducted with 204 homemakers residing in the inner city poverty area, area A, and 114 were conducted with homemakers in the outer city, area B. The survey among homemakers was conducted to provide information relating to food shopping habits and behavior, transportation requirements, purchasing practices, service requirements, attitudes and opinions about products and stores, and estimates of money spent for food.

Personal interviews were also conducted with owners and managers of 314 retail food stores; 160 were from area A stores and 154 from area B stores. Separate on-site observations were conducted in each

of the 314 retail food stores selected for the retailer survey to obtain information on the physical appearance of stores, presentation of merchandise, number of brands and sizes of selected products handled, and other data which would provide a profile of the store as seen by consumers. In addition, a market basket study was conducted in 32 of the 314 stores selected.

Three areas of investigation of particular interest to this study were shopping habits, purchasing practices, and shopping behavior. In the discussion relating to shopping habits, it was reported that about half the inner city homemakers reported buying about the same amount of food each week in a month. The rest made major food purchases only once or twice a month. Among inner city homemakers who purchased about the same amount of food each week, Friday and Saturday were days on which most weekly shopping was done. Among homemakers living in area B, most weekly shopping was done on Thursday, Friday or Saturday, but especially on Thursday. Homemakers in the inner city were less likely to make out a shopping list before going on a major food shopping trip than homemakers in area B.

In reference to purchasing practices, the study indicated that inner city residents tended to purchase fewer prepared mixes and less coffee than area B residents. The results showed that inner city homemakers tended to purchase more canned green peas, margarine, nationally advertised brands of frozen orange juice and white bread than area B homemakers.

Additional information about shopping behaviors and patterns of

homemakers were gained by inspecting several interrelationships of distance traveled to the primary food store, mode of travel used, and type of store in which most shopping was done. The findings showed that the higher the family incomes the less likely homemakers were to walk to their primary food store. The findings also suggested that buying behavior patterns of area A residents and their area B counterparts were influenced by the convenience of store location, cleanliness and neatness of stores, quality of products, and values received for their money.

Another food shopping habits study was done by Burgoyne, Inc. (1974). This study was the eighteenth in a continuing series of annual and biannual studies of supermarket shoppers' buying habits and attitudes. Each year efforts are made to incorporate questions related to changes in the economy. Included in the 1974 study were questions concerning rising food prices, the energy crisis, price comparisons and the use of coupons in advertising. The relative importance to shoppers of unit pricing, open dating, facts on nutrition, environmental problems and other customer concerns were also measured.

The sample was composed of 2,261 supermarket shoppers from only urban and suburban areas. The shoppers were interviewed in their homes.

The Food Shopping Habits Interview Study consisted of twenty questions. The results of interest to this study showed that:

1. Nine out of ten shoppers buy in more than one supermarket.

2. The average multiple supermarket shopper shops in almost three different supermarkets to satisfy desires for specials, variety, and quality.
3. Supermarkets do a stronger job selling the shopper fruits and vegetables than fresh meats.
4. More than four out of five food store ad-reading shoppers read two or more different food store ads.
5. In the shopper's mind coupon offers do not necessarily mean best price specials.
6. More than four out of five supermarket shoppers preferred a store with lower prices than one giving trading stamps.
7. Only a small percent of supermarket shoppers say they never compare prices between different supermarkets.
8. Almost three out of four supermarket shoppers say that the quality of private label brands is equal to or better than nationally advertised brands (pp. 10-36).

According to another study conducted by Needham, Harper and Steers (1975), higher food prices have prompted homemakers to change such habits as where they shop, what they buy and how they plan their shopping trips.

"The Shopping Crisis" study was based on a series of group interviews with about 200 women in 10 U.S. cities. The report indicated that food buyers' responses to the shopping crisis fell into three categories: inflation, nutrition and consumerism. Budgeting and more careful shopping were among the ways families coped with inflation.

The results of the study indicated that on one hand many women were angry because prices have gone up so much, and for the most part, their anger was directed at the grocery store as the closest available

target. On the other hand, women were more aware of prices and price changes than they had been in the past. They said they must be aware of both price levels and price changes in order to avoid drastically increasing the grocery bill.

According to Needham et al., women said they were very concerned about nutrition, although they had a difficult time defining it. For most nutrition equals protein, vitamins were secondary and poorly understood. However, women were aware that good nutrition required balance, both within meals and among meals. They listed a hierarchy of nutritional needs. Nutrition was most important for their children, then for their husbands, and finally for themselves. Women were concerned about teaching their children better eating habits.

A study funded by General Mills entitled "The General Mills American Family Report" was developed by Yankelovich, Skelly and White (1975). The study was the first in a projected series of research reports on the American family.

The intent of the study was to provide information and insights into both the immediate and long-term impact of money and economics on major aspects of American life, including:

- 1) Family structure
- 2) Intra-family relationships
- 3) The value system
- 4) Money management
- 5) Money--hopes and pleasures
- 6) Money problems
- 7) Relationships to institutions
- 8) Health and well-being
- 9) Life-style
- 10) Outlook and goals (p. 9)

The study consisted of three stages: an intensive exploratory phase based on 10 focused group discussions in different areas of the country; interviews with over 150 experts who deal with the American family in many areas of their lives and a final quantitative phase.

The family unit was the primary focus of the study. The sample was designed to represent families rather than the traditional household or general population. The sampling unit in the study was the family, and the universe was total families in the United States, defined by the U.S. Census as households with two or more members related by marriage, blood or adoption. In designing the sample, special steps were taken to insure that the base of households with children 18 years of age and under would be large enough to provide for detailed analysis by demographic groupings. The total sample for the study was based on a national probability sample of 2,502 families in which interviews were conducted in every household in which there was a child 18 years of age or younger living at home. Primary respondents interviewed included 1,247 adult members of families. In analyzing the results, statistical weights were applied to account for the disproportionate sampling of families with children, in order to insure projectable results to the total families of the United States.

A pilot phase was initiated to explore the topics relating to the effects of money and inflation on the American family. Two types of in-depth interviewing procedures were used. Six "focus" group sessions were held with respondents of varying social and economic

backgrounds. In some groups, two members of the same family attended the session in order to provide preliminary explorations of family consensus and differences.

Two questionnaire forms were used. The long form consisted of the basic questionnaire, and contained both open-ended and closed questions. The short form questionnaire, used with the second family member to be interviewed, was filled out by the second family member independently of the primary respondent's initial interview.

The demographic variables used in the study were primarily those associated with stage in the life cycle, particularly as determined by the ages of children in the household and the size and income of the family. Over 50 variables were used in analyzing the results of this study, including both demographic and nondemographic breakdowns.

The summary contains two areas which relate to this study: food and eating patterns, and shopping patterns.

As families attempt to cope with inflation, changes in eating patterns are reflected as efforts to hold the line on food costs.

As the authors state,

One out of four families is trying to cut back on its use of prepared and frozen food; one out of five is not serving meat regularly; a small number of families is eliminating "seconds". A change is also indicated on items such as cookies and candies, with 45% of the families reporting that they are spending less this year on sweets and only 22% spending more (Yankelovich et al., 1975, p. 20).

In reference to shopping patterns, an integral part of beating inflation is bargain hunting, especially among the 45% of families who report serious money problems. Many consumers now assume that inflation will get worse, not better,

and that it is smarter to buy now especially when items are on sale. Again this presents a real conflict to families who are trying to cut back, but who are also worried about rising prices and having enough money later on (Yankelovich et al., 1975, p. 21).

A study of supermarket shoppers conducted by Family Circle Magazine (1975) was entitled Today's Supermarket Shopper. The report seeks answers to the questions of how are America's food shoppers reacting to these hard times, how are they changing in their thinking and feelings and their buying behavior, and what is happening in the marketplace.

The study was based upon a self-selected sample responding to a questionnaire bound into some 1,050,000 copies of the August 1974 issue of Family Circle from the east to west coasts. The questionnaire consisted of subject matter suggested by top officers of the major supermarket chains, and represented areas of particular interest to them. The majority of questions were designed for optical scanning; however, three open-end items were included.

More than 6,000 usable questionnaires were returned. The sample was characterized as young, in the 25-34 year-old age group, married, with children living at home and full-time housewives. Most were high school graduates and had household incomes of \$10,000 or more.

In response to the question, What does today's shopper feel about shopping? the responding homemakers indicated frustrations in shopping due to: high prices, brand shortages and poor quality. Satisfactions related to supermarkets revealed responses of:

friendly services and wider selection.

Another primary question was, What is today's shopper doing to control spending? Forty-two percent said they were making fewer shopping trips during the week. On the other hand, 53 percent said they were going to more stores. Almost three out of four homemakers said they have increased their reading about how to plan meals, and stretch meats and leftovers. Thirty-nine percent of shoppers indicated that they were putting fewer items on their list than before, and were doing more intensive bargain hunting, especially for coupons in magazines. Three out of four shoppers were reading food store ads more often, and making price comparisons. The homemakers buying behavior changed so that seven out of ten said they were buying fewer national brands than in the past. Eighty-four percent said they were buying fewer items on impulse, they were checking and comparing unit cost more often; and 70 percent of homemakers said they were reading the ingredient and nutritional information on the package more often than in the past. Homemakers also said they were now spending more time in the kitchen and doing more cooking and baking from scratch. More than one-half said they were now growing more of their own vegetables and over one-third said they were doing more home canning.

When asked, What changes does today's shopper want in the supermarket? fifty-two percent suggested nutritional information. In addition, eight out of ten homemakers want all prices clearly listed for each product and size, plus unit cost, easily visible on the shelf in front of each package.

Responses to this study were tabulated from a self-selected sample of Family Circle magazine readers.

Consumer Education Research Studies

The following studies were selected because they examined attitudes, skills and knowledge of consumer education concepts. Additionally several studies were designed to develop need evaluation and curriculum materials.

Assessment of the influence that selected factors had upon the consumer economic knowledge and attitudes of prospective home economics teachers was one concern of a study by Lohr (1961). Another purpose was to ascertain the knowledge and attitudes of prospective home economics teachers in Michigan as related to a selected competence and to compare their capabilities with those of students preparing to teach in other areas of high school subject matter. The competence dealing with consumer economic aspects of the individual was to purchase consumer economic goods and services appropriate to an overall consumption plan and wise use of economic resources.

To measure consumer economic knowledge and attitudes, a multiple-choice test of 113 items, with four alternatives was developed by the investigator. The areas of consumer education represented by the test items were: money management, buying practices, buying food, clothing and housing, credit, investments, savings, and insurance. Data were collected from 104 prospective home economics teachers and 91 students preparing to teach in other high school subject matter

areas in the state colleges and universities of Michigan. There was a difference at the .01 level of significance between the mean test scores of the prospective home economics teachers and those prepared to teach in other subject matter areas in the total test scores and in all areas of the test with the exception of that portion of the test dealing with questions pertaining to credit, investments, savings and insurance.

The findings indicated that there were no significant differences between the adjusted means of any of the groups, and it was concluded that there is no significant difference in the consumer education achievement of students enrolled in separate courses of consumer education and those taught in courses of economics or advanced general business that incorporate consumer education concepts into the framework of the course content.

To determine the extent to which high school courses in vocational home economics contributed to student understanding of basic concepts of consumer education a study was initiated by Curry (1970).

It was hypothesized that there would be no significant difference in the understanding of basic concepts of consumer education between students who have had at least two years of vocational home economics and students who have had no home economics.

Of the sixteen personal factors included in this study, only six were significantly related to the test scores of the prospective home economics teachers. There was a relationship at the .01 level of significance between some parts of the test and factors related

to place of residence, size of parental family, and a college course in Consumer Economics. At the .05 level of significance there was a relationship between some parts of the test and personal factors related to allowance practices before college, work experience while in college, and a college course in principles of economics.

Another study to test consumer attitudes and understanding was conducted by Litro (1969). The purpose of the study was to test the hypotheses that students from different social positions do not differ significantly in their consumer attitudes and understandings and that there would be no significant differences when the groups were classified according to their academic programs.

Consumer education areas of money management, credit, insurance, saving and investments, were included in the test. The sample consisted of 614 eleventh grade students from three urban and suburban schools. To determine social status Hollingshead's Two Factor Index of Social Position was used (as cited in Litro, 1969). Group A consisted of the upper and Group B the lower levels.

The findings indicated that Group B demonstrated significant differences when classified by academic programs. Those in the college preparatory program scored highest on all sections of the Consumer Information Test except on credit. Those in the general program scored lowest on all areas. The college preparatory students scored significantly higher on all sections of the Consumer Attitude Inventory and the business students scored higher than the general students except on the area of money management. Group A scored

higher on both the Consumer Information Test in the areas of money management, insurance, savings and investments and on all sections of the Consumer Attitude Inventory. Females scored higher on the money management concept of the Consumer Information Test. There was no significant difference between males and females on the Consumer Attitude Inventory.

Three studies reviewed were primarily related to assessments of consumer concepts. A study by Jelly (1958) was done to determine the money management understandings of second-semester high school students. A word count of money management topics found in eight textbooks was used to validate a test to determine the comprehension of money management concepts of the students. Forty-three topics considered important were isolated and submitted to the sponsors of a national graduate business education society who served as the jury of experts. The topics were rated on a five point scale: imperative, very important, important, desirable, and unimportant. Seventeen topics had mean ratings which placed them above the rank of very important. These were divided into three broad categories of money management: borrowing money and using credit, managing personal finances, and insurance. The weighted means were used as the guide for developing the test.

Items were written, revised, and administered to one group of senior class students. An item analysis was performed which resulted in the rewriting or discarding of items with low discriminatory power. This process produced a 60-item multiple choice test.

The test was administered to 603 seniors in five high schools in the Cincinnati, Ohio, area. One hundred and two of these seniors were interviewed. The 603 seniors were divided into three socio-economic classes. The students were also divided into three academic achievement groups on the basis of the grade-point averages which they earned during their last three years in high school.

A comparison was first made of the understandings evidenced by students who differed in socio-economic status. The second comparison considered the differences in understandings which exist among three academic achievement groups. On all three sections of the test, students who comprised the higher academic achievement group scored significantly higher than the students who made up the middle group. Likewise, on all three sections of the test, the students comprising the middle achievement group scored significantly higher than the students who comprised the lower group.

The differences between the understandings of male and female students constituted the final comparison made. On the section of the test which measured insurance understandings, the mean score of male students was significantly higher than the mean score of female students. On the other sections of the test, the differences were not statistically significant.

Thomas (1969) was also concerned with the achievement of consumer education concepts. The purpose of the study was to determine whether differences existed in the achievement of secondary school students who experienced consumer economics through separate consumer education.

courses and those taught in courses of economics or advanced general business that included consumer education.

The research design used was a quasi-experimental design with nonequivalent control group. It entailed the use of intact groups consisting of secondary school classes to which students had been heterogeneously assigned. The groups were pretested, assigned a treatment, and post-tested. The treatments were regularly taught subjects of business management, consumer economics, and general economics.

The data for the investigation were analyzed by the analysis of covariance with mental ability, age, and prior knowledge of consumer education as control variables. The Consumer Education Inventory post-test served as the criterion measure.

The Consumer Education Inventory was an adaptation of the test series that accompanied the text, Consumer Economics, published in 1966 by McGraw-Hill Book Company (as cited in Thomas, 1969). Reliability was established through a pilot study and validity was established by a panel of specialists, by comparison of test content to that of textbooks and to criteria established as guidelines for curriculum content in consumer education.

The sample population was selected from students enrolled in the Phoenix Union High School District, Phoenix, Arizona, and the Tempe Union High School District, Tempe, Arizona. Total final population for the study was 138; 45 students in the economics group, 47 students in the consumer economics group, and 46 students in the

business management group.

To determine the extent to which high school courses in vocational home economics contributed to student understanding of basic concepts of consumer education a study was initiated by Curry (1970).

A test of seventy-five multiple choice items with five options was formulated, based on the consumer economics concepts in the Alabama Course of Study for Home Economics (as cited in Curry, 1970). A panel of judges composed of subject matter specialists and teacher educators reviewed the items for relevance and for clarity. A 55-item pilot test was administered to 25 eleventh grade students in a rural school.

An item analysis revealed four items which did not discriminate. These were eliminated. The final test included 51 items representing five broad areas: elements of choice making, financial management, buymanship, utilization of goods and services, and consumer citizenship.

The population for the study included 864 students from rural, urban, urbanized, and metropolitan areas. They were categorized into four groups according to their curriculum: vocational home economics, business, vocational home economics and business, and no vocational home economics and no business.

The t ratio of the differences of the means was used to test the hypothesis that there would be no significant difference in relation to students, teacher, and program variables. A significant difference was found between students who had completed at least two

years of home economics and those who had never been enrolled in home economics, when scores were adjusted to account for differences in ability. Those with higher ability scores had higher scores on the consumer test regardless of home economics experience.

The purposes of the study designed by Furrer (1960) were to first construct a test to measure certain competencies in personal and financial management and, second, to evaluate the extent of the competencies in a sample of senior high school students. In order to develop a partially illustrated test to measure the competencies, a preliminary instrument of 50 items for each of six areas of money management was designed. The areas were budgeting, banking, insurance, installment buying and credit, savings and investments, and providing a home. Each item, representing a particular competency, was rated by a jury of educators. After the 300 preliminary items were administered to approximately 225 students, the test was revised for two parallel forms of 72 items each. Form 1 was administered to 458 students of eleventh and twelfth grades in two senior high schools of Pennsylvania. Form 2 was administered to 443 students in eleventh and twelfth grades in the same two high schools.

From the findings, Furrer (1960) drew these conclusions, high school students are deficient in competencies related to personal and financial management, insurance, and providing a home. No significant differences were found in competencies of college preparatory and business students, and vocational and general students. College preparatory students tested significantly higher than

vocational or general students, and business students tested significantly higher than vocational or general students.

Construction of a test to measure investment knowledge and comprehension of college students was the purpose of the study by Mancini (1966). Six concepts identified through a review of the literature were: safety of principal, rate of return, purchasing power, liquidity, long-term growth, and managerial care.

A jury of family finance professors, graduate students, and money and banking specialists, judged 124 items on correctness of the statement and the degree of importance of the statement. The four levels used were: very important, somewhat important, little or no importance, and item out of context. A table of random numbers was used to order the seventy-four items. The test consisted of true-false items incorporating a certainty scale. Eighty-two college students enrolled in a financial management course comprised the sample. Eighteen students responded to all 74 items, thirty-one responded to Form I, and thirty-three to Form II. An estimated mean item difficulty of .58 and a reliability coefficient of .83 were reported.

The problem of a study developed by Ogden (1964) was to construct and standardize a valid, reliable achievement test to measure personal financial knowledge, understandings, and applications possessed by college students. Four steps were employed: (1) establishment of content validity; (2) construction and analysis of test items to measure personal financial knowledges, understandings, and

applications; (3) determination of statistical data commonly used in a standardized test; and (4) the standardization of the test for each group tested by the establishment of percentile norms.

Content validity was established and the test was administered to 833 students enrolled in personal finance courses in eight coeducational, state colleges and universities. Tests were administered during the last two weeks of the course.

The achievement test was constructed from approximately 100 four option, multiple choice items. Based on the pre-test, items were reedited, reconstructed, and revised. The final test form consisted of sixty, four option, multiple choice items to be administered in a fifty-minute class period.

The test was found to have content validity, and the coefficient of reliability was .74. The mean score for the test was 27.07 for the 833 students participating in the test. The standard deviation was 6.88, while the standard error of measurement was 3.54.

According to Ogden (1964) the test can serve as a valid and reliable measuring instrument within the limitations prescribed in the study; as a means of permitting students to "test out" of a personal finance course; as a basis for judging the effectiveness of a course in personal finance; as a final evaluation of students enrolled in a personal finance course; as a means of clarifying and reevaluating objectives of a personal finance course; and as a means for teacher reevaluation of his methods, techniques, and materials taught in a personal finance course.

The purpose of a study designed by McCall (1973) was to determine the status of consumer competencies at various developmental levels as a basis for planning curricula. The literature did not reveal an available valid and reliable instrument to measure the competencies; as a result, the development of the necessary evaluation instrument became the first task of the study.

The consumer education concepts developed by the President's Committee on Consumer Interest were utilized as a base for the development of the instrument. A true-false format was used to develop a pool of 782 items which were validated by two juries.

Parallel forms of 100 items were constructed incorporating a three-point certainty scale with the true-false format. Administration of the pilot instruments resulted in reliability estimates of .70 for Form I and .80 for Form II.

Data were collected from 1256 subjects in three school districts classified as rural, suburban, and urban. Subjects were fairly evenly distributed by districts and grade levels within the districts.

The results revealed that the total Test of Consumer Knowledge (TOCK) with its four subscores differentiated significantly among school districts and by grade levels. Although there were no significant differences in scores of boys and girls for the rural district there were selected differences between scores of boys and girls in both the suburban and urban districts.

Consumer and Homemaking Consumer
Education Programs for Adults

Since early 1960's the Cooperative Extension Service has broadened its program emphasis towards developing community resources and improving the quality of life (Beal et al., 1971). One audience which has been the recipient of the extension service's broader scope of program activities is low income people.

The Expanded Food and Nutrition Education Program (EFNEP) launched nationally in 1969 is an example of one program directed towards improving social and cultural needs. According to Elliott (1972), the objective of the EFNEP is to improve the dietary level of low-income families through nutrition education and improved use of resources. The program uses the person to person approach through paraprofessional program assistants (aides), recruited from the low-income target area.

In the 1968 Amendments to Vocational Education Act, Part F of Title I provided federal funds for home economics programs with greater consideration to social and cultural needs. The four consumer and homemaking programs reported are examples of programs which were designed to assist low-income people to improve the quality of their lives. These programs also utilized the person-to-person approach through informal teaching by paraprofessional program assistants. Discussion of the first three programs was selected for inclusion because they are similar to the final program reported in this section, from which the sample of respondents for this study

was taken.

Evaluation of selected adult homemaking and consumer education programs in New York was the focus of a study done by Nelson and Jacoby (1973). The primary purpose of the study was a formative evaluation to provide information concerning the impact of programs set up under provisions of the Vocational Education Act Amendments of 1968 on the program participants, and on the lives of the paraprofessionals who staffed the program. In addition it was hoped that the information gathered would provide direction for continuance or revision of the programs.

Specific objectives of the study as reported by Nelson and Jacoby (1973) were to:

- 1) Measure progress of program participants toward performance objectives; 2) assess ability of professional staff to understand feelings and problems of program participants; 3) measure progress of paraprofessional staff toward performance objectives directed at characteristics of employability as evidenced by job performance, job persistence, and attitudes toward paraprofessional jobs in human services; 4) provide descriptive data to answer questions regarding processes and facilities of the nature of program attendance, and what procedures which enhanced attendance (p. 4).

A sample of 10 programs were nonrandomly selected from 25 full-time adult consumer-homemaking programs in the state.

The sample of 108 randomly drawn participants were selected from the ten program sites (nine urban and one rural program). At the time of the study, twenty-six paraprofessional aides employed in the 10 centers participated in the study. The comparison group consisted of ten newly hired aides employed in similar programs. The demographic data included variables of: age, health, family

status, educational level, race and income level.

The research design consisted of a pre- and post-test which utilized program dropouts as the comparison group. Nelson and Jacoby (1973, p. 25) report that the "greatest challenge of the study was collecting evaluative data in nonthreatening ways, because the real danger was that evaluation could destroy the fledging programs, whose participants were difficult to recruit at best and for whom anonymity was safety."

The evaluation techniques used were interviews, systematic observation of program, descriptive rating scales, and recording of critical incidents by both local program and research staff. Of particular importance were all-inclusive records kept by the center, including comprehensive records of attendance, resources and program content.

Instruments for measuring progress toward the objectives of the study were refined from earlier research or developed expressly for the study. The instruments to measure the progress of participants were a Participant Interview Schedule, Consumer-Homemaking Descriptive Rating Scale and a Record of Critical Incidents form. Measures related to attitude and proficiency of professional staff were Observation Records, Teacher Interview Schedule, Resource Records and Daily Program forms. Measures related to attitude and the proficiency of paraprofessional staff included an Aide Interview/Questionnaire, Rating for Evaluation of Paraprofessionals, and an Attitude toward Paraprofessional Jobs in Human Services instrument.

Measures for collecting information on processes and facilities were an Attendance Register, Child Care Records, Recruiter Records, Inventory of Facilities and Equipment, and Background Information sheets.

Content validity was established in several ways: for the objectives, it was through consultation with field personnel, a review of observed data, the literature concerning needs by the target audience, and submission for approval to a panel of subject matter specialists and local staff. For the interview schedule it was based on the development of items related to specific performance objectives and to the general project objectives. For the descriptive rating scale, it was based on performance objectives, critical incidents and reports by field staff and researchers. For the rating scale for evaluation of the aides, it was based on the review of the literature, job descriptions, and responses of teachers and aids to an open-end questionnaire.

Reliability of the various instruments was established in the following ways: (1) pretest of the instrument and assessment of internal consistency, (2) calculation of a coefficient of reliability, (3) intercorrelation of subscores and item analyses for internal consistency, and (4) calculation of interrater reliability and item discrimination.

Several analyses were made to establish the effectiveness of the program on the participants. A t-test was used to determine significant differences between gain scores of high and low-exposure

groups. A product moment correlation matrix provided information concerning inter-correlation of dimensions of the major evaluation instruments. An Index of Program Effectiveness was compiled from ranking of the 10 individual programs on Consumer-Homemaking Descriptive Rating Scale gain scores, attendance gain, use of resources, maximization of teachable moments, quality of daily preparation, and critical incidents. In addition, Kendall's Concordance Coefficient was used to measure the extent of associations among sets of rankings for the Index of Program Effectiveness.

An early effort of a state to evaluate the Expanded Nutrition Education Program was made by Cannon (1970). The primary purpose of the study was to determine the usefulness and validity of evaluation instruments constructed to evaluate stated objectives of the Expanded Food and Nutrition Program in West Virginia.

The objectives on which the study was based were: (1) to improve attitudes toward food, environment and health and their inter-relationships, and (2) to develop knowledge as to the adequate planning and selection of foods based on family resources and proper nutrition. Two instruments were developed for each objective. Detailed content was studied for each objective, and the investigators selected four key items for the instrument. The key items were: attitude toward the program, physical home conditions, knowledge of nutrition and meal planning and food buying practices.

The limitations to the study included a limited budget, and the instruments developed had to be short and unthreatening, and

could not require writing by the homemakers.

A pretest for content validity and reliability was done. Suggestions from the pre-test were incorporated into the four instruments which were developed for the Pilot Study in Northern West Virginia County. Ten randomly selected clients who had been in the program for a year or more, and ten randomly selected clients who were "new" to the program comprised the sample. Only instruments one and four were used. In addition reports of aides selected demographic data was utilized.

Assessment of the client's attitude towards participation in the program was the focus of Instrument I. Content validity and clarity of questions were special concerns. The results of the pilot study on Instrument I showed that it is an effective measure for evaluating attitude and interest in the Expanded Food and Nutrition Educational Program. The data from this instrument indicated a favorable response concerning the program from both the "new" and "old" clients.

The focus of Instrument II was on physical home conditions at the time of the clients' entrance into the program and after several months. Interrater reliability averaged .92 on an initial test. This instrument was not used in the pilot study.

Instrument III related to knowledge of the Basic Four and consisted of two parts. Food models provided by the National Dairy Council were used in Part A to plan three menus for the same day to be evaluated according to the basic four food groups. Analysis

of the test indicated a mean item discrimination of .47 and reliability estimate (split-half) of .98.

The results of Instrument III indicated that nutrition knowledge was the same for "new" as well as "old" clients. Both groups failed to include sufficient Vitamin A in their diets.

Comparative shopping was the focus of Instrument IV. A descriptive rating scale was used to determine shopping techniques in food purchasing. The instrument was filled out by the aide after a shopping trip to the grocery store by the client and aide. Interrater reliability on the pre-test was .91. This instrument was not used in the pilot study.

A study by Yerka (1974) presents research data indicating the effectiveness of paraprofessionals working with consumers of human services. The aim of the study was to propose guidelines for the selection, training and supervision of paraprofessionals delivering educational services to limited resource families; it was specifically designed to provide insight into the characteristics and behavior of paraprofessionals employed in a nutrition education program within the Cooperative Extension Service.

The study proposed the following questions: (1) Are paraprofessionals effective--do clients benefit? (2) What is there about paraprofessionals that makes them effective? (3) What can an agency do to increase the contributions that make paraprofessionals effective (Yerka, 1974)? This study was part three of a larger project entitled "Effectiveness of Paraprofessionals in Working with

Low Income Families." Construction of several instruments and measurements for appraising the effectiveness of specific paraprofessionals was the focus of the total three-part study. The data were gathered between 1970 and 1972.

The population for the study consisted of twenty paraprofessionals and eighty-nine homemakers in one New York City community. Three specific measurements were used in the research to assist in determining the ability of paraprofessionals to produce desired changes in families. The competencies measured were: knowledge and understanding of teaching-learning principles and strategies (with an interview-achievement test); attitudes toward jobs in human service, attitudes toward the job and its environment, and job persistence (with a Likert-type scale), and performance factors related to persisting behaviors (with an observation-rating device). In addition, a rating scale was developed as an on-the-job performance measure, to determine the paraprofessionals actual follow through in teaching families. Records were used to ascertain the food consumption practices and nutritional knowledge of the families and an interview schedule was developed to determine the families' recognition of assistance. A final form was developed to analyze the paraprofessionals input into the homemakers' lives through the home visit; this information was taken from a content analysis of the written logs.

The respective instruments were administered to the paraprofessionals during working hours and the homemakers were paid for the

time spent in the interview.

A comparison group of homemakers from the program clientele was utilized as a nonequivalent control group. The comparison group consisted of "naturally assembled collectives as similar as availability permitted" (Yerka, 1974, p. 80). The length of time enrolled in the program was the difference between the two groups. The seventy-six experimental homemakers were taught at least eight months by one paraprofessional. The comparison group was comprised of thirteen homemakers who had three or less visits from the paraprofessionals.

The interview-achievement test used consisted of thirty-nine items. The responses were practice-oriented and used a three-point scale. The reliability was .91. The Likert type four-point attitude scale consisted of 42 items and had a reliability of .82. Job persistence and performance factors were measured by a fifteen-item instrument utilizing a three-point scale, with a reliability of .88.

A t-test for paired observations was utilized in testing the significance of the difference between the mean scores achieved by the paraprofessionals on the pre- and post-evaluations. In order to establish significant differences between the experimental and comparison groups of homemakers, a t-test for independent sample proportions were used for each of the variables from the demographic data. To relate the paraprofessionals' scores to the criteria of success for program participants, intercorrelations were utilized. Stepwise multiple regressions were used to examine the effectiveness

of the paraprofessionals, indicating which and how many of the independent variables were predictions of paraprofessionals' success.

The findings showed that knowledge of teaching and learning was important to the success of the paraprofessional; however, the ability to put this knowledge into practice was found to be even more important.

Yerka (1974) provided evidence that it is possible to select, train and place in the community paraprofessionals whose backgrounds are similar to the homemakers they teach (p. 183).

A special program in Illinois is the Consumer and Homemaking Education Program for Low-Income Families (CHEP) from which subjects for this study were drawn. The CHEP program was developed in 1972 from funding provided by the Board of Vocational Education and Rehabilitation in the state of Illinois to the University of Illinois Cooperative Extension Service. The program was initially located in rural and small town areas; however, during its second year it was expanded to several large urban counties (Synectics, 1973).

The CHEP was developed by the University of Illinois Extension Service, from the rationale that low-income families have a great need for consumer education because they have very limited resources. In addition, they need to efficiently manage resources to gain maximum satisfaction and improve their level of living (CHEP proposal, University of Illinois Cooperative Extension Service). The broad objective of the CHEP was to teach (paraprofessional) program assistants and program families (homemakers) to improve management and

use of resources. The specific program objectives were to teach families to:

- 1) acquire knowledge, skills, and motivation for making decisions in managing family resources.
- 2) gain maximum satisfaction from available resources, both human and material.
- 3) improve competencies as consumers in the marketplace.
- 4) increase awareness of resources available to consumers in the community, state or nation (p. 4).

Form and direct activities of Inter-Agency Committees and Program

Advisory Committees would contribute to:

- 1) understanding of the program and its objectives by the total community and the members of the specific target areas in which the program functions.
- 2) greater understanding of the needs and motivations of the target audience by the program staff.
- 3) a coalescence of total community and especially service agency response to specific and unique needs of the program participants (p. 4).

The CHEP was implemented through selected single and multi-county area programs. The selection of areas was based on high percentages of families in poverty areas. The determinants of poverty were identified from statistical information on employment, income, level of education, age, race and size of families, etc. The target area within each county was identified by consulting with the Interagency Committee and County Extension Councils. Adult homemakers in families are the primary audience. The program staff consisted of the Home Economics Extension Advisor, paraprofessional program assistants, supervising program assistants and secretaries.

The program content areas are based on a list of topics identified from a "problem identification records list" which includes eight series:

- 1) Knowing resources available to the family (100-112).
- 2) Knowing more about making wise decisions in managing family resources (200-206).
- 3) Improving home management and care skills (300-307).
- 4) Knowing more about nutrition and skills related to foods (400-408).
- 5) Strengthening family life and helping each person within the family setting (500-510).
- 6) Keeping good health and preventing diseases (600-606).
- 7) Knowing more about and learning skills related to housing and home furnishing (700-709).
- 8) Knowing more about and learning skills related to textiles and clothing (800-807).

The paraprofessional program assistants were recruited from the target area. Several weeks of training and orientation was provided for each new program assistant and program assistant supervisor. The training sessions included basic information on program philosophy, operational procedures, the audience, subject matter, methods of relating subject matter to family problems and methods of teaching.

In-service education follow-up sessions are provided regularly for the program assistants by the county extension advisor. In addition, the extension-advisor meets at least twice a month for an individual conference with each program assistant. During these

conferences progress of individual families are reviewed, family problems are identified, methods to solve problems are explored and work schedules are planned. The individual conferences also served as a demonstration of teaching on a one-to-one basis. In addition, the extension advisor uses the conference period to assist the program assistant with her own family problems and establishes with the program assistants performance standards for evaluation of her work.

The program assistant contacts low-income families (homemakers) in the target area and assists the families in identifying their problems and needs. A plan of work is then developed to accomplish the objectives set up with the family. The program assistant uses the home visit as the principal method of reaching the family and supplements the home visits with group meetings (Synectics Corp., 1973).

The Synectics Corporation (1973) was commissioned to evaluate the CHEP program. The final evaluation report, "Evaluation of the Consumer and Homemaking Education Program for Low-Income Families," indicated that there was a need for "increased attention to consumer practices, move versatility in teaching consumer information and more attention to the broad range of consumer actions which program participants must take" (Synectics, 1973, p. iii). According to Synectics (1973), slightly more than a third of all homemakers enrolled are given instruction in consumer practices and more than half of these instructional sessions were geared to purchase of

food. The report recommended that greater emphasis be placed on other areas of consumer practices.

Summary

The review of literature included four major topics: (1) models of consumer behavior, (2) marketing research studies, (3) consumer education research and (4) a report of selected consumer education-related programs for adults.

Literature reviewed on models of consumer behavior indicated that models of buyer behavior serve as flow charts depicting elements and relationships of consumer behavior.

Models provide a frame of reference for consumer research by providing a bases for integrating concepts from a variety of behavioral sciences into a meaningful whole. The educator is then provided with information to disseminate to students concerning aspects of consumer behavior.

Reports of marketing research studies indicated consumer behavior in the marketplace during the present inflationary period. They also provided insights into consumer needs and frustrations.

Consumer education research studies reported the assessment of consumer knowledge and attitudes, measured knowledge of consumer concepts, described development of consumer education evaluation instruments, and examined levels of consumer competencies as a basis for curriculum planning. The selected consumer and homemaking education programs reviewed were specifically designed to meet the needs

of low-income families. The first three programs reviewed were similar in many respects to the fourth program which provides the sample for this study.

On the basis of this review, the assessment of consumer concepts and behaviors within the framework of a consumer education model seems justified.

METHOD OF PROCEDURE

In the past decade models of consumer behavior have been developed by marketers and psychologists. Recently consumer educators have begun to develop educational models to serve as frameworks for curriculum development. However, a review of the literature indicated that none of the available models have been tested with a specific subject area in order to more accurately identify consumer behavior.

Therefore, the purpose of this study was to identify one consumer education content area and develop a matrix of related concepts and behaviors based on the Consumer Education Spiral-Process Approach developed by Murphy et al. (1974). Those behaviors were to serve as the basis for development of evaluation instruments for use in determining the extent to which the behaviors were exhibited by a group of consumers. An additional purpose was to test for the existence of a hierarchical structure within the food purchasing behavior matrix.

This chapter contains a statement of the objectives of the study, the development of the matrix, descriptions of the sample, development of the instruments, and delineation of the procedures employed to collect and analyze the data.

Objectives

The objectives of the study were to:

1. Develop a matrix of concepts and food purchasing behaviors based on the four spiral processes as delineated in the Consumer Education Modules (Murphy et al., 1974).
2. Develop an achievement test to measure knowledge and comprehension in the subject area of purchasing food, reflecting the four processes: inquiry, valuing, decision, action.
3. Develop an observation checklist to assess actual food purchasing behaviors.
4. Assess the respondents' competencies in food purchasing behaviors based on responses to the achievement test and the observation checklist.
5. Investigate the relationship between selected demographic variables and the scores on the food purchasing behavior checklist and the achievement test.
6. Test and evaluate the four processes for the existence of a hierarchical structure of consumer behaviors related to purchasing food.

Food Purchasing Behavior Matrix

The matrix of consumer behaviors developed for this study was based on the framework of the Spiral-Process Approach as presented by Murphy et al. (1974). The Spiral-Process Approach consisted of four major processes: inquiry, valuing, decision, and action. Each

major process had six subprocesses: recognize, consider, collect, organize, analyze, and evaluate. The framework of the Spiral-Process was developed from examination of behaviors exhibited by consumers. The focus was on the process of how the individual learns and the process of acquiring skills to function as a rational consumer.

In order to utilize the framework of the Spiral-Process Approach to develop a subject area matrix, it was necessary to identify a specific consumer education content area. The content area identified was based on Suggested Guidelines for Consumer Education Grade K through 12 from the President's Committee on Consumer Interest (1970), and An Approach to Consumer Education for Adults, from the Office of Consumer Affairs (1973). Both were developed to suggest consumer education content areas, to illustrate teaching situations and learning opportunities, and to identify instructional materials. Four interrelated consumer education content areas were suggested in both guidelines: (1) the individual consumer; (2) consumers in the society; (3) marketplace alternatives for consumers; and (4) rights and responsibilities of consumers.

The content area selected for development of the matrix was marketplace alternatives for consumers. The selection was based on the need to develop consumers with knowledge and skills required to make intelligent decisions in the marketplace. Due to present-day inflationary trends and soaring prices in the supermarket, the specific subject area of purchasing food was selected.

Two instructional areas utilized in the University of Illinois

Cooperative Extension Service Consumer and Homemaking Program were reviewed: (1) making wise decisions in managing family resources and (2) nutrition and skills related to foods. In addition, from a review of consumer research studies three recurring concepts were selected: food cost, nutrition and health, and food preference. The content area and concepts were reviewed and accepted by three consumer education specialists.

The four major processes (inquiry, valuing, decision, action) and three of the six subprocesses (recognize, consider, and analyze) served as a framework for developing statements of food purchasing behavior. The behaviors developed relating to the concepts of cost, nutrition, and food preference comprised the matrix. The matrix reflects the spiral process approach, even though only three of the six original subprocesses were utilized.

A total of 36 behaviors were presented in the matrix. Each behavior was identified with a number for the subprocess; e.g., I-2; and a corresponding test item; e.g., Q-1,2. One example of the subprocess behavior within the inquiry process was; recognition of effects of rising food cost on the family food budget which limits the opportunity to provide nutritious family meals. Another behavior for the first valuing subprocess was; recognition of values such as quality, appearance, taste of food which are related to the food budget and the rising cost of food (Table 1).

Both construct and content validation were assessed. Construct validity was needed to determine whether the behaviors reflected the

Table 1. Food purchasing behavior

COST	NUTRITION	PREFERENCE
<u>Inquiry Level</u>		
Recognize the effect of rising food cost on the family food budget which limits the opportunity to provide nutritious family meals. (I-1; Q-1,2)	Recognize the need to provide foods which will meet the nutrition and health needs of the family. (I-1; Q-14)	Recognize the need to know family members' food preferences and the relationship between food preferences and acceptability of meals. (I-1; Q-26)
Consider procedures for adjusting to the rising cost of food in order to provide nutritious meals. (I-2; Q-3)	Consider alternative ways to provide nutritious meals to maintain optimum health. (I-2; Q-15)	Consider the food preferences of individual family members in order to identify means of increasing the acceptability of family meals. (I-2; Q-27)
Analyze data collected, state a conclusion concerning the relationship of rising food cost to the food budget. (I-5; Q-4)	Analyze the data collected; state a conclusion concerning the relationship of nutritious meals to maintenance of optimum health. (I-5; Q-16)	Analyze the information collected, state a conclusion about the relationship of individual food preferences to family acceptance of meals. (I-5; Q-28,29)
<u>Valuing Level</u>		
Recognize values such as quality, appearance, taste of food which are related to the food budget and the rising cost of food. (V-1; Q-5).	Recognize the family value of optimum health related to obtaining nutritious foods. (V-1; Q-17)	Recognize the values such as family harmony, frugality and health that influence a homemaker's decision to consider food preferences when planning a family meal. (V-1; Q-30)
Consider value-influenced alternatives for adjusting to the rising cost of food. (V-2; Q-6)	Consider alternative foods to maintain values of nutrition and health. (V-2; Q-18)	Consider how homemakers who hold different values could be influenced by a variety of preferences. (V-2; Q-31,32,33)
Analyze value-influenced alternatives related to the increased food expenditures. (V-5; Q-7)	Analyze value-influenced alternatives related to maintenance of optimum health and nutrition. (V-5; Q-19)	Analyze value-influenced preferences related to purchasing food for the family. (V-5; Q-34,35,36)

Decision Level

Recognize the decision problem of comparing the cost of foods in order to maintain the total family budget. (D-1; Q-8)	Recognize the decision problem of selecting foods which will aid in maintaining optimum health and nutrition. (D-1; Q-20)	Recognize a decision problem to include some preferred foods in menu planning. (D-1; Q-37)
Consider comparing cost and purchasing less expensive foods in order to maintain the family budget. (D-2; Q-9)	Consider purchasing alternatives of less expensive nutritious foods. (D-2; Q-21)	Consider alternate ways of providing foods the family could enjoy. (D-2; Q-38)
Analyze the less expensive foods considered in terms of predicted consequences. (D-5; Q-10)	Analyze alternative consideration of less expensive foods in terms of predicted consequences relating to standards of optimum health and nutrition. (D-5; Q-22)	Analyze alternative ways of providing foods the family could enjoy. (D-5; Q-39)

Action Level

Recognize an issue related to cost of food that requires consumer action. (A-1; Q-11)	Recognize an issue related to nutrition that requires consumer action. (A-1; Q-23)	Recognize the issue related to food preferences that requires consumer action. (A-1; Q-40)
Consider evidence in order to produce desired consumer goals. (A-2; Q-12)	Consider evidence and alternative actions which can produce desired consumer goals. (A-2; Q-24)	Consider evidence and alternative actions which can produce desired consumer goals. (A-2; Q-41)
Analyze actions. (A-5; Q-13)	Analyze actions. (A-5; Q-25)	Analyze actions. (A-5; Q-42)

twelve processes as defined by Murphy et al. (1974). The behaviors were reviewed for construct validity by the director of the consumer education curriculum modules project, a staff member of the project, and by two consumer education specialists who were consultants to the original project. Content validity was assessed by two food and nutrition specialists, one a university resident faculty member and the other an extension staff member.

Sample

The sample for the study included the program assistants, and 8 randomly selected homemakers associated with each assistant from the University of Illinois Cooperative Extension Service, Consumer and Homemaking Education Program (CHEP). Due to illness two program assistants did not participate. At the time of the study the sample consisted of 47 program assistants and 376 homemakers.

The CHEP program was initiated in 1971 from funding provided by the Division of Vocational and Technical Education in the State of Illinois, to the University of Illinois Cooperative Extension Service. The CHEP was developed by the University of Illinois Extension Service, from the rationale that low-income families have a great need for consumer education because they have very limited resources. In addition, they need to efficiently manage resources to gain maximum satisfaction and improve their level of living. The general objective of CHEP is to teach program assistants (paraprofessionals) and homemakers ways to improve management

and use of resources. The program utilizes the one to one approach of teaching low income persons by paraprofessional program assistants through home visits.

The program began in three rural areas of Illinois. These areas included a multi-county unit in Greene, Scott, Calhoun, and Jersey counties, and two single counties, Wayne and Jefferson. In subsequent years of operation, the program was expanded to urban areas of the state including the Chicago and Peoria areas and Calhoun, Greene, Jackson, Jefferson, Jersey, Pulaski-Alexander, Scott-Wayne, and Madison-St. Clair counties. In fiscal year 1974 to early 1975 the number of families served through CHEP increased from 4,654 to 6,211.

In spring 1975 the CHEP program was reduced to three low-income areas in Illinois, Cook County, Madison-St. Clair County, and Pulaski-Alexander. The program, under the direction of the Assistant Director, included three home economics extension advisors and 49 program assistants. The Cook County area program is located in a high density urban area on the south side of Chicago within a multiracial community. It serves predominantly Black American low-income families. The Madison-St. Clair program is part of the East St. Louis area. This urban area comprises one of the most depressed low-income areas in the nation. The program in this area serves both Black and Caucasian low-income families. The Pulaski-Alexander program is located in the southern tip of the state of Illinois and serves rural low-income Black and Caucasian families.

Instrumentation

Development of achievement test

The behaviors developed as a part of the food purchasing matrix provided the basis for developing the items for the achievement test (Food Purchasing Behavior Interview). The test was designed to ascertain the food purchasing knowledge and comprehension of the homemakers enrolled in CHEP. An interview format was used because it was considered the most appropriate way to collect the data from homemakers with low reading skills.

Situational statements related to the four major and three subprocesses were written. The situations were also related to the three concepts food cost, nutrition, and food preference. Open-ended achievement test items were then written for each of the subprocesses under the three concepts. In a few cases more than one question was written for a particular behavior.

To assure validity, items were submitted to specialists in the area of consumer education and food and nutrition for judging content and construct validity. Three food and nutrition specialists, one resident faculty member and two extension specialists reviewed the items for content validity. Construct validity was assessed by two consumer specialists, one a resident faculty member and the other an extension specialist and three home economics education graduate students who were familiar with the model. Revisions and corrections were made for several items.

The sample chosen for the pre-test was similar in demographic

characteristics to the sample for the study. An interview format was utilized because it was a suitable and familiar way to obtain responses from the homemakers.

The open-ended achievement questions were administered by the researcher to thirteen homemakers attending evening adult education classes in Des Moines, Iowa; six homemakers in the Expanded Nutrition Program in Des Moines, Iowa; six homemakers in Ames, Iowa; and twelve homemakers attending evening adult education classes in Chicago, Illinois. Based on suggestions from the homemakers, those items considered to be irrelevant or ambiguous were revised or discarded. The open-ended responses on the achievement test were tallied and responses with the highest frequencies were used as preferred responses. These responses were also validated using the best choice, with the food and nutrition specialists.

The final format of the achievement test, The Food Purchasing Behavior Interview consisted of fifteen situational statements and forty-two test items related to the spiral processes and the three concepts. A structured response pattern of "a," and "b" options were used, and "c" was designated as "other" for open-ended responses. A copy of the total test is in Appendix A.

The achievement test was administered by twelve model cities nutrition program assistants to twenty-four homemakers in Chicago, Illinois. This pre-test served two purposes. The program assistants reported on usability of the instrument and the data from the administration were used for the item analyses.

The responses were coded on answer sheets and submitted to the test scoring service at Iowa State University for computer processing. An item analysis and reliability coefficient were computed. Even though these data were recognized as preliminary it was necessary to obtain some indication of these qualities. It should be noted that 24 responses for item analyses data does not tend to stabilize until approximately 100 responses are used in the computations.

Scores on the pre-test ranged from 20 to 35 with a mean of 26.13 and standard deviation of 4.27. The items on the test ranged in difficulty from 17% to 96%. Twenty-two items fell in the suggested difficulty range of 30% to 70%. Sixteen items exceeded the upper limits of the level of difficulty of 70% and four items fell below the 30% level. Discrimination indices for items in the test ranged from .08 to .74. Twenty-four items had discrimination indices greater than .20. Eleven items had negative discrimination indices.

All of the items had distracters functioning. Seven items had distracters which were selected more times than the preferred response. Of these items, five had a negative discrimination index and two had a positive discrimination index. Appendix F shows the item analyses for all items on the pre-test.

The criteria for quality items include a difficulty level within the range of 30% to 70%, a discrimination index above .20 and all distracters functioning. Based on results of the test six items

met the criteria. The reliability was estimated at .56 using Kuder-Richardson formula 20. A reliability of .90 or above is desired for achievement tests. Although the preliminary data analyses did not yield as high a reliability nor as many functioning items as desired, the decision was made to use the instrument as it existed. This decision was based on the fact that since the researcher had taken many steps to assure validity of the items and usability of the instrument it seemed better to use the items as they were than to risk loss of validity by revision.

Development of observation checklist instrument

The second instrument, the Food Purchasing Behavior Observation Checklist, contained items designed to assess consumer behaviors observed by the CHEP program assistants. Some of the observation questions on the checklist reflected the knowledge questions on the achievement test.

Items were judged for content validity by two extension food and nutrition specialists. Construct validity was judged by one consumer consultant and two consumer extension specialists.

The checklist's final format consisted of twenty-nine observation questions related to the Food Purchasing Behavior Interview (achievement test). A "yes" and "no" response pattern was used. Demographic data were also recorded on the observation form. A copy of the observation checklist is in Appendix C.

Collection of the Data

To collect the data, the researcher traveled to the three CHEP counties in the Illinois program: Cook, Madison-St. Clair, and Pulaski-Alexander. One training session was held in each county and a total of forty-seven program assistants were trained to administer the Food Purchasing Behavior Interview to eight of their randomly selected homemakers.

A training session for each county was developed to provide an introduction to the data collection instruments and to present additional consumer-related concepts for the paraprofessional program assistants. Instructional materials on stretching the food dollar and penny-pinching plan for meals slide series were presented.

Each program assistant completed a Consumer Behavior Observation Checklist for each of the homemakers selected. The 376 checklists were collected by the researcher. In the following two-week period, 375 Food Purchasing Behavior Interviews were completed, collected from the program assistants by the extension advisor, and returned to the researcher. One homemaker did not respond to the achievement test.

Analysis of the Data

As indicated by the objectives, the purpose of this study was to identify one consumer content area and develop a matrix of related concepts and behaviors based on the consumer education spiral-process approach. Additional purposes were to utilize the spiral process

approach to test for the existence of a hierarchical structure within the food purchasing behavior matrix, and to investigate the relationship between selected demographic variables and the scores on the observation checklist and the achievement test.

The raw data from the 375 Food Purchasing Behavior Interview instruments and the 376 Food Purchasing Observation Checklists were coded by the researcher. The data were keypunched and analyses performed by the computation center at Iowa State University.

Instrument quality

The range, the mean and the standard deviation were computed. Scores of 375 respondents from achievement tests ranged from 13 to 36. The mean score was 22.5 with a standard deviation of 3.8. The reliability was estimated at .52 using the Spearman-Brown split half method.

The items on the achievement test ranged in difficulty levels from 16% to 86%. Thirty-one items fell in the suggested difficulty range of 30% to 70%. Eight items exceeded the upper limits of the level of difficulty of 70% and three items fell below the 30% level.

The discrimination indices for items in the test ranged from .01 to .35. Twenty-three items had discrimination indices greater than .20. No items had negative discrimination indices.

All of the items had both distracters functioning. Thirteen items had distracters which were selected more times than the preferred response (Appendix B-1). Open-ended responses to the interview are in Appendix E.

Based on the results of the achievement test 16 items met all criteria for quality items however 26 were acceptable in some respects. The reliability was not satisfactory at all, but reasons for the low figure are not clear. Individual items functioned better than on the pre-test and program assistants reported no problems in administration.

Consumer behavior

The homemakers' performance on the achievement test and the observation checklist were computed and indicated by frequencies and percentages (Appendix D).

Intercorrelations

Intercorrelations between subscores on the observation checklist and the interview were computed.

Analyses of variance

To study the effects of the four demographic variables on achievement test scores, four one-way analyses of variance were computed. The demographic variables were area, age, length of time in program, and number of children. The linear model on which these analyses were based was:

$$y_{ij} = \mu + \beta_i + \epsilon_{ij}$$

where β = demographic variable
 ϵ = error.

Hierarchical structure

An appropriate statistical procedure for testing hierarchical structures is the Guttman Simplex Analysis. Guttman (1954) refers to his technique as a procedure for the use of qualitative data to establish an order among people. He proposes use of what he calls a "simplex," or simple order of complexity, as a means of ranking tests in a hierarchical form.

The Guttman procedure was used to determine if the four processes and three subprocesses in this study were hierarchical. That is, if the first process or subprocess is least complex, the second requires all that the first process did and more; the third requires both the first and second processes and more; etc. When the scores for the processes are intercorrelated, they form a pattern in which the highest correlations lie along the main diagonal, tapering off as one moves across the rows. A similar pattern obtains from bottom to top of each of the columns in the matrix. That is, the bottom correlations are highest, tapering off toward the top (as cited in Hughes, 1969).

FINDINGS AND DISCUSSION

The first section of this chapter includes results of the achievement test, The Food Purchasing Behavior Interview. The second section reports responses of food purchasing behavior, and the third, responses to the observation checklist, The Food Purchasing Observation Checklist. The fourth section reports the comparison of knowledge and observations. The fifth section describes the relationship between the demographic variables and the scores on the instruments. The sixth section is an explanation of testing of the processes for the possible existence of a hierarchical structure of consumer behavior related to purchasing food.

Achievement Interview Test Results

The 42 item achievement test (The Food Purchasing Behavior Interview) was developed from the matrix of food purchasing behaviors based on the Consumer Education Modules A Spiral-Process Approach (Murphy et al., 1974). The test was administered to a random sample of 376 homemakers enrolled in the University of Illinois Cooperative Extension Service, Consumer and Homemaking Education Program (CHEP). The specific geographic areas were Cook, Madison-St. Clair, and Pulaski-Alexander counties. The Cook County area program is located in a high density urban area on the south side of Chicago within a multiracial community. It serves predominately Black American low-income families. The Madison-St. Clair program is located near the East St. Louis area. This urban area comprises one of the most

depressed low-income areas in the nation. The program in this area serves both Black and Caucasian low-income families. The Pulaski-Alexander program is located in the southern tip of the state of Illinois and serves rural low-income Black and Caucasian families. Forty-seven paraprofessional program assistants completed the observation checklist for eight homemakers and 376 homemakers were interviewed by the paraprofessional program assistants who provided the data used in this study. The data were coded and submitted to Iowa State University Computation Center for keypunching and analyses.

The 375 scores on the achievement test ranged from 13 to 36; one participant did not respond. The mean was 22, the standard deviation 3.8 and the reliability was .52.

Assessment of Food Purchasing Knowledge

Based on the matrix developed, the test was divided into three major concepts areas: food cost, nutrition and food preference. The test was structured according to the Spiral-Process framework into major levels of inquiry, valuing, decision and action. Additionally, each major level was further divided into sub-levels: recognize, consider and analyze (Table 1). A copy of the test appears in Appendix A.

Food cost

Hypothetical situations were developed and test items were written to assess the homemakers' knowledge. The first thirteen questions pertained to the concept of food cost. Based on the

situations described, questions one through four assessed the homemakers' ability to recognize rising cost of milk, use of dry milk, and the use of alternate dairy products which could provide nutrition similar to that of fresh whole milk (Table 2). In responding to item one, 54 percent recognized the problem of the rising cost of milk and 365 homemakers considered use of dry milk as a less expensive purchase. Sixty-two percent selected the use of other dairy products as alternatives which could provide similar nutrition.

Situation two, questions five through seven, were designed to assess the homemakers' ability to analyze information, state a conclusion and pertained to the effects of transportation cost on the homemakers' desire to purchase food. Fifty-nine percent of the homemakers recognized that transportation cost would affect purchasing power, and more than half of the homemakers suggested the purchase of another kind of food provided similar nutrition.

The decision problem in situation three related to the need for comparing the cost of food items in order to maintain the family budget. In responding to questions eight through ten, more than 75 percent of the homemakers recognized the problem as rising food cost. Sixty-one percent selected the option of comparing the cost of baking versus buying, and three-fourths indicated the alternative of purchasing day-old bread.

Questions eleven through thirteen assessed consumer action behaviors. In responding to the discontinuation of the unit pricing

Table 2. Food cost behaviors for the interview

Item	Number of preferred responses	Percent
1	204	54
2	205	55
3	233	62
4	231	61
5	220	59
6	255	68
7	215	57
8	295	79
9	231	61
10	287	76
11	253	67
12	135	36
13	108	29

system in the supermarket, sixty-seven percent of the homemakers believed that communicating with the manager could be one option. However, only thirty-six percent felt the necessity to check to see how many persons used the unit pricing system.

Nutrition

Items fourteen through twenty-five related to the concept of nutrition. As indicated in Table 3, eighty percent of the homemakers

Table 3. Nutrition behaviors for the interview

Item	Number of preferred responses	Percent
14	299	80
15	242	64
16	190	51
17	257	68
18	220	59
19	207	55
20	153	41
21	186	50
22	163	43
23	95	25
24	61	16
25	129	34

recognized the need for breakfast, sixty-four percent suggested the importance of feeding the children before going to work and more than half of the homemakers recommended preparing nutritious breakfast foods desired by the family.

Sixty-eight percent of the homemakers responding to the questions of size of egg versus grade felt that getting the most nutrition for the money was the important factor.

In situation eight, the homemakers' ability to recognize the

decision problem to provide foods to maintain health and nutrition was evaluated. Only forty-one percent of the homemakers recognized the need to purchase foods with vitamin C; however fifty percent selected the option of purchasing frozen orange juice as one way to provide vitamin C; however fifty percent selected the option of purchasing frozen orange juice as one way to provide vitamin C at a lower cost.

Questions twenty-three through twenty-five related to recognition of a nutrition issue which requires consumer action. Only twenty-five percent of the homemakers believed the need to communicate with other homemakers concerning the nutrition issue of pre-sweetened cereals and only 34 percent felt that communicating with other homemakers would help to improve nutrition for other children.

Food preference

Items twenty-six through forty-two, indicated on Table 4, are related to the concept of food preferences. When presented with the need to recognize family food preferences, only thirty-one percent of the homemakers recognized the need to provide nutritious snacks. However, the finding suggests that more than half of the homemakers responding to question 27 felt it was possible to discover food preference by discussing family food likes and dislikes.

Situation twelve presents value considerations reflecting the need to provide preferred foods for the family with limited resources. In responding to question thirty, forty-one percent of the homemakers recognized that the food stamp program could assist in alleviating

Table 4. Food preference behaviors for the interview

Item	Number of preferred responses	Percent
26	118	31
27	249	66
28	322	86
29	267	71
30	198	51
31	267	71
32	278	74
33	139	37
34	271	72
35	94	25
36	203	54
37	161	43
38	127	34
39	228	61
40	191	51
41	166	44
42	128	35

the stress of rising food prices and would help provide some preferred foods for the family.

Identification of foods preferred by the family was the concept assessed in questions thirty-seven through thirty-nine. Thirty-four

percent of the homemakers responding to question thirty-eight suggested that the homemaker should experiment with new foods, but 61 percent felt the family might learn to like the new foods.

The final items, questions forty to forty-two, pertained to consumer actions. When presented with the situation of a lack of variety of preferred vegetables in the supermarket, more than half of the homemakers responding suggested organizing a group of citizens to meet with the manager to discuss the problem. However, less than fifty percent of the homemakers would consider the interest of other neighbors before going to the manager.

Food Purchasing Observation Checklist

The Food Purchasing Observation Checklist was designed to assess the homemakers' consumer behaviors as observed by the CHEP program assistants. Some observation questions on the checklist related directly to the knowledge questions on the achievement test incorporating the concepts of cost, nutrition and preference (Appendix C).

Food cost

Question two assessed the program assistants' observation of use of dry milk as one way to reduce the cost of fresh whole milk. In responding to question two program assistants observed that only forty-six percent of the homemakers used dry milk.

Question three, six and seven pertained to comparisons of food items. The program assistants believed that 65 percent of the homemakers made comparisons between types of foods and also compared

store brands with name brands. Program assistants responding to question four indicated that 86 percent of homemakers made an effort to buy specials (Table 5).

In response to the use of alternatives, program assistants indicated that 82 percent of the homemakers substituted one food of similar nutritive value for another if the price was too high.

Questions 1, 8, 9, and 10 were related to budgeting and stretching the food dollar. More than half of the homemakers observed made and used a budget and used food stamps to stretch the food dollar. However less than 20 percent were observed as figuring cost per serving and utilizing the unit pricing system in the supermarket.

Nutrition

Questions thirteen through twenty-two pertained to observation of nutrition-related practices of homemakers. More than half of the homemakers practiced looking for dates and reading labels on food items (Table 6).

Approximately three-fourths of the homemakers were observed to plan meals based on the basic four food groups. Ninety-three percent of the homemakers used leftovers and 81 percent of the homemakers purchased seasonal foods. More than half of the homemakers purchased nutritious snacks and nutritious breakfast cereals. Sixty-one percent of the homemakers observed communicated with the store manager if a problem occurred in the supermarket.

Table 5. Food cost behaviors for the observation checklist

Item	Number of preferred responses	Percent
1	242	64
2	175	47
3	245	65
4	323	86
5	307	82
6	246	65
7	183	49
8	295	79
9	63	17
10	51	14
11	153	41
12	338	90

Table 6. Nutrition behaviors for the observation checklist

Item	Number of preferred responses	Percent
13	209	56
14	273	73
15	279	74
16	251	69
17	352	93
18	196	51
19	305	81
20	233	62
21	231	61
22	303	81

Food preference

In responding to questions 23-29, which were related to food preferences, the program assistants indicated that more than 50 percent of the homemakers involved the family in planning meals. More than half of the homemakers were observed experimenting with new foods (Table 7). Forty percent of the homemakers observed preferred to purchase convenience foods, and more than half often purchased less nutritious snacks.

Table 7. Food preference observations

Item	Number of preferred responses	Percent
23	297	79
24	194	52
25	151	40
26	222	59
27	226	60
28	230	61
29	165	44

A comparison of food purchasing knowledge and practices is reported in the following section. There is: first, a description of concepts, topics, and a comparison of corresponding items, and second, the intercorrelations among eight variables, three sub-scores and the totals for each instrument.

Comparison of Food Purchasing Knowledge and Practice

Description

The achievement test instrument was used to assess food purchasing knowledge of homemakers in the sample. In addition, the observation checklist was used to record food purchasing behaviors of the homemakers, observed by the paraprofessional program assistants. Three concepts related to food purchasing behaviors were assessed: food cost, nutrition and food preferences.

Forty-seven paraprofessional program assistants recorded observations for eight randomly selected homemakers on the checklist, and the Food Purchasing Behavior Interview was administered to 375 homemakers. Frequencies and percentages are reported on Tables 2-7; however, comparisons of knowledge and actual practices merits further consideration (Table 8).

Presented in Table 8 are the concepts and topics from the checklist and the interview. Items related to the topic and concepts found in the checklist and the interview are identified in the table.

Examination of items within the concept of food cost indicates that although less than 50 percent of the homemakers observed used dry milk, 98 percent of the homemakers, interviewed, suggested using dry milk to reduce the cost of fresh whole milk, 55 percent selected the preferred option, to mix one half whole milk with one half dry milk and 43 percent selected the option to use dry or powdered milk. Interpretation of these findings suggests that learning opportunities

Table 8. Comparison of knowledge and observations

Concept	Topic	Checklist items	Percent	Interview items	Percent
Food cost					
	dry milk	2	47	2	55
	comparisons	6	65	9	61
	substitutes	5	82	6	68
	food stamps	8		30	51
	unit pricing	10	14	12	36
Nutrition					
	vitamin C	15	74	21	50
	nutritious cereal	22	81	23	25
	nutritious snacks	20, 26	62, 59	26	31
Preference					
	new foods	27	60	27, 38	66, 34
	preferred food	29	44	40, 41, 42	51, 44, 34

should be planned to give homemakers additional experiences in using dry milk.

Comparison of prices was another area assessed. More than 60 percent of the homemakers observed, compared the cost between fresh, frozen and canned foods, and also between store and name brands. Similarly, 62 percent of the homemakers interviewed suggested the necessity of comparison shopping. The results indicate little variation in knowledge and actual practice, however, scores of 60 percent suggest possibilities for additional learning experiences in comparison shopping.

More than 80 percent of the homemakers were observed to use substitutes or alternative foods, however, approximately 63 percent interviewed suggested use of substitute foods. Inspection of these percentages suggests that homemakers are using substitutes when necessary.

Seventy-nine percent of the homemakers were observed using food stamps to stretch the food dollar, yet 51 percent indicated that rising cost would influence their decisions to get into the food stamp program. Discussion of food stamps is a delicate subject, and may explain why observation showed that homemakers were using food stamps more than they reported in the interviews.

In responding to the questions concerning the unit pricing system in the supermarket, only 14 percent were observed using the system, and only 36 percent indicated interest in the system. The fact that these percentages were low suggests possible implications

for educational experiences in the use and purpose of unit pricing.

The second major concept was nutrition. Whereas observations indicated that 74 percent of the homemakers purchased foods providing vitamin C, only 50 percent interviewed suggested frozen orange juice as a possible way to provide vitamin C at a lower cost. Although the homemakers seemed to be providing vitamin C foods, it appears that experiences indicating nutritional values of alternative foods could be of value to homemakers.

Nutritious breakfast cereals was the topic of several questions, and 81 percent were observed purchasing nutritious breakfast cereals. However, only 25 percent felt the need to talk to other homemakers concerning less nutritious advertised cereals. These large differences could be attributed to the fact that the homemakers responding did not perceive the need to actively become involved with food purchasing decisions of their neighbors.

Food preferences was the third concept explored. The findings show that 60 percent of the homemakers observed experimented by cooking new foods, yet only 34 percent reported interest in cooking new foods. An explanation of these results could be that homemakers need additional exposure to a variety of foods and methods of preparation.

Less than 50 percent of the homemakers observed and of those interviewed indicated that they would ask the manager to stock food preferred by the community in the supermarket. These findings suggest a need to assist homemakers in becoming actively involved in community activities and decisions.

Correlation

Intercorrelations among eight variables, three subscores and the total on the observation checklist and three subscores and the total score on the interview, are shown in Table 9. Significant positive correlations between .41 and .54 were found between the three subscores on the observation checklist. Significant correlations between .72 and .85 were found between each subscore and the total score on the checklist.

Significant negative correlations were found between the nutrition subscore on the checklist and the nutrition subscore on the interview, the preference subscore on the interview, and the total interview score. A significant negative correlation was also found between the preference subscore on the checklist and the total interview score.

Significant positive correlations between .157 and .162 were found between cost and nutrition and the nutrition and preference subscores on the interview. Each of the three subscores on the interview was significantly correlated with the total score on the interview.

A significant negative correlation was found between the preference subscores and checklist total score, and a significant negative correlation was found between the total checklist score and the total interview score. Although the correlation of .149 is statistically significant it accounts for only 2 percent of the common variance between the checklist and the interview.

Table 9. Intercorrelations^a between food purchasing knowledge and observed practices

Variables	Checklist			Interview			Total	
	Cost	Nutr.	Pref.	Cost	Nutr.	Pref.	Check-list	Inter-view
Checklist								
Cost								
Nutrition	54**							
Preference	42**	48**						
Interview								
Cost	00	-06	-08					
Nutrition	-07	-11*	-06	16*				
Preference	-09	-17**	-07	06	16**			
Totals								
Checklist	85**	85**	72**	-05	-10	-14		
Interview	-08	-18	-11	61**	68**	65**	-15**	

^aDecimal points have been omitted.

*Significant at $p < 0.05$.

**Significant at $p < 0.01$.

Analysis of Variance Between Demographic Variables and Instruments

The results of the analyses of variance, which were made to determine whether significant differences existed between demographic variables and scores on the checklist and interviews (achievement test) are discussed in this section. These analyses must be interpreted conservatively. Because of the large sample size in this study, statistical significance was relatively easy to obtain. Therefore, significant findings need to be studied not only for differences between groups but also interpreted in relationship to the numerical size of the difference in the scores on the observation and interview instruments.

Area variable

Table 10 presents the F ratios for area as a source of variance. Area was found to be a significant source of variance for nutrition on the observation checklist, for cost and preference on the interview and for the total interview score.

The means of the observation checklist and the interviews are given in Table 11. Inspection of the means by area for the observation checklist indicates that homemakers in the Cook County area had lower mean scores in the practice of nutrition-related concepts than homemakers in Madison-St. Clair and Pulaski-Alexander counties. However, the mean scores for the interviews indicated that homemakers in Cook County scored higher than homemakers in Madison-St. Clair

Table 10. F ratios for geographic area as source of variance

Variable	F ratio ^a
Food purchasing behavior checklist	
Total	1.6
Cost	2.7
Nutrition	7.1**
Preference	.6
Food purchasing behavior interview	
Total	11.1**
Cost	6.1**
Nutrition	2.6
Preference	5.6**

^aDegrees of freedom for F are 2,373. Table values for F are 3.02 at 5% and 4.67 at 1%.

**Significant at $p < 0.01$.

and Pulaski-Alexander counties on knowledge of food cost purchasing concepts.

Table 11. Mean scores by geographic area

Variable	Area (counties)		
	Cook	Madison- St. Clair	Pulaski- Alexander
Checklist			
Total	39.2	40.4	39.7
Cost	16.9	17.2	16.4
Nutrition	12.4	13.0	13.4
Preference	9.9	10.1	9.8
Interview			
Total	23.9	22.5	21.8
Cost	7.9	7.5	7.1
Nutrition	6.1	5.6	5.6
Preference	9.9	9.3	9.0
Number	176	104	96

Age variable

The results of the analysis of variance for age as a source of variance are given in Table 12. Age was a significant source of variance for food cost, food preferences, and total score on the

Table 12. F ratios for age as source of variance

Variable	F ratios ^a
Food purchasing behavior checklist	
Total	3.4**
Cost	3.8**
Nutrition	2.0
Preference	2.7*
Food purchasing behavior interview	
Total	1.4
Cost	1.7
Nutrition	0.6
Preference	0.6

^aDegrees of freedom for F are 6,369. Table values for F are 2.12 at 5% and 2.86 at 1%.

*Significant at $p < 0.05$.

**Significant at $p < 0.01$.

checklist. Inspection of the checklist mean scores by age, shown in Table 13, reveals that homemakers under thirty years of age scored higher on the total checklist on practices related to food cost concepts than older homemakers. Homemakers under thirty and

Table 13. Mean scores by age

Variable	Age						
	Under 25	25-30	31-35	36-40	41-45	46-50	Over 50
Checklist							
Total	41.7	40.5	39.0	39.0	37.5	39.5	40.4
Cost	18.1	17.3	16.7	16.8	16.0	16.5	16.8
Nutrition	13.3	13.1	12.5	12.6	12.1	13.1	13.2
Preference	10.3	10.1	9.9	9.7	9.4	10.0	10.5
Interview							
Total	22.6	22.1	23.9	23.1	23.1	23.6	21.9
Cost	7.6	7.5	8.3	7.6	7.4	7.9	7.4
Nutrition	5.6	5.8	6.1	6.0	6.1	6.0	5.5
Preference	9.5	9.7	9.5	9.6	9.7	9.7	9.1
Number	48	73	57	53	48	49	48

over fifty years of age had higher mean scores for observed food preference concepts and for the total observation checklist.

Time variable

An examination of the F ratios in Table 14 shows that length of time in the program was a significant source of variance for observed food cost and nutrition concepts and for the total observation checklist.

The mean scores for length of time in the program are presented in Table 15. Literal interpretation of Table 15 shows that homemakers enrolled less than one year had higher mean scores for observed food cost, nutrition concepts and total checklist scores than homemakers in the program one year or more. There were no significant differences in the scores for the interview, and there was no pattern of scores for length of time in the program. These tables need to be conservatively interpreted because a study of Table 15 shows that responses from those with three or more years are few in number. Hence, the irregular group sizes could be contributing to the significant F ratios more than differences in years in the program. Further, interpretation that length of time in program does not contribute to a homemaker's knowledge is of concern because this study assessed only a few dimensions of what the program strives to achieve.

Children variable

An inspection of the F ratio for number of children as a source of variance was only for the total checklist.

Table 14. F ratios for time in program as source of variance

Variable	F ratios ^a
Food purchasing behavior checklist	
Total	3.2*
Cost	3.4*
Nutrition	3.7**
Preference	1.9
Food purchasing behavior interview	
Total	1.4
Cost	1.1
Nutrition	1.4
Preference	0.7

^aDegrees of freedom for F are 4.369. Table values for F are 2.39 at 5% and 3.37 at 1%.

*Significant at $p < 0.05$.

**Significant at $p < 0.01$.

Table 15. Mean scores by time in program

Variable	Time in program (years)				
	0-1	1	2	3	4+
Checklist					
Total	40.7	39.6	38.7	38.3	38.1
Cost	17.4	16.7	16.4	16.7	15.6
Nutrition	13.3	12.7	12.6	12.0	12.0
Preference	10.0	10.2	9.7	9.7	10.4
Interview					
Total	22.9	23.3	23.1	23.5	21.7
Cost	7.6	7.7	7.6	7.7	7.7
Nutrition	5.8	6.0	5.9	6.2	5.3
Preference	9.5	9.7	9.7	9.7	8.7
Number	164	91	71	34	14

Table 16. F ratios for number of children as source of variation

Variable	F ratio ^a
Food purchasing behavior checklist	
Total	2.1*
Cost	2.2
Nutrition	1.9
Preference	1.3
Food purchasing behavior interview	
Total	1.4
Cost	1.1
Nutrition	1.4
Preference	0.7

^aDegrees of freedom for F are 10,365. Table values for F are 1.85 at 5% and 2.38 at 1%.

*Significant at $p < 0.05$.

Table 17. Mean scores by number of children

Variable	Children										
	0	1	2	3	4	5	6	7	8	9	10
Checklist											
Total	40.4	41.2	40.7	38.3	38.4	39.9	38.1	39.4	38.3	37.0	38.5
Cost	16.8	17.8	17.4	16.5	16.2	16.9	15.8	16.4	16.3	16.4	16.3
Nutrition	13.1	13.4	13.2	12.2	12.4	12.9	12.3	13.4	12.3	11.4	12.5
Preference	10.5	10.0	10.1	9.6	9.9	10.2	10.1	9.5	9.7	9.2	9.8
Interview											
Total	21.8	23.1	22.6	23.6	24.2	22.3	23.9	22.3	23.6	23.6	24.8
Cost	7.2	7.6	7.7	7.6	8.4	7.6	7.7	7.2	7.3	6.8	8.5
Nutrition	5.4	6.0	5.5	6.2	6.2	5.7	6.6	5.6	5.7	6.8	6.5
Preference	9.1	9.6	9.4	9.9	9.6	9.0	9.6	9.6	10.6	10.0	9.8
Number	34	59	88	70	35	35	21	18	7	5	4

Means by number of children are found in Table 17. A literal interpretation of means on the total checklist shows that they were slightly higher for homemakers with two or less children than for homemakers with three or more children. These tables also need to be interpreted cautiously since a study of Table 17 indicates that few homemakers were present in the study with three or more children. Again, the unequal cell sizes could be contributing to the significant F ratios more than the differences in the number of children.

Hierarchical Structure

The results of the Guttman Simplex analysis, the statistical procedure used for ranking the food purchasing behaviors in a hierarchical form, are discussed in this section.

A theoretical question of concern was whether or not there was indication of a hierarchy within the major and sub-processes. Inspection of the correlation matrix in Table 18 reveals a slight indication of a hierarchy within the first three processes, i.e., inquiry, valuing, and decision. However, the fourth process, action, shows no hierarchical relationship to the other three. No evidence of a hierarchical structure within the sub-process was found within the twelve sub-processes (Table E-1, Appendix E).

Although the assessment of the Consumer Education-Spiral Approach, utilizing the subject area of food purchasing revealed only a slight indication of a hierarchy, this single assessment is not enough to infer that a hierarchical pattern is nonexistent.

Table 18. Intercorrelation of the four processes of the food purchasing behavior matrix

Four major processes	INQUIRY	VALUING	DECISION	ACTION
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INQUIRY				
VALUING	0.18			
DECISION	0.22	0.14		
ACTION	-0.00	-0.03	-0.13	

Summary

The findings of this study were reported in six sections:

(a) the results of the Food Purchasing Behavior Interview (achievement test); (b) responses of food purchasing interviews; (c) observation checklist responses; (d) comparisons and correlations of food purchasing knowledge and observations; (e) relationships between demographic variables and scores on the instruments; and (f) test for the existence of a hierarchical structure.

The Food Purchasing Behavior Interview (achievement test) was

developed from a matrix of food purchasing behaviors based on the Consumer Education Modules a Spiral-Process Approach (Murphy et al., 1974), to assess food purchasing knowledge. The achievement test was administered by forty-seven paraprofessional program assistants to a sample of 376 homemakers enrolled in the University of Illinois Extension Service, Consumer and Homemaking Program (CHEP). The program was located in three low-income areas within the State of Illinois; Cook, Madison-St. Clair, and Pulaski-Alexander counties, and serves Black and Caucasian low income families.

Data were coded, keypunched and analyzed. The results from the item analyses, the preferred responses, and the open-ended responses were reported.

The Food Purchasing Behavior Observation Checklist was designed to assess homemakers' consumer behaviors observed by the CHEP program assistants. The twenty-nine observation checklist questions related to the knowledge questions on the achievement test. The observation checklists were completed by the 47 program assistants for eight of their homemakers. Frequencies and percentages of the responses from the observation checklist were reported.

Descriptive comparisons for selected items, and intercorrelations among eight variables: for food cost, nutrition and preferences and the totals for both instruments were reported. A comparison of selected responses indicated that homemakers were aware of ways to cut food cost however they were not observed

practicing these techniques (i.e., use of dry milk). In some cases, the results showed that homemakers had limited knowledge of a service, therefore did not utilize the service (i.e., the unit pricing system). In response to questions pertaining to nutrition, in several cases homemakers were observed practicing a nutrition principle, however, the finding revealed limited comprehension of nutrition knowledge. The findings also indicated that a majority of homemakers who preferred particular food items would ask the manager to stock these foods. However, homemakers showed little interest in the food preference needs of their neighbors.

Significant correlations were found within the subscores on each instrument, but not for the total scores.

To study the effects of four demographic variables--area, age, length of time in program, and number of children--on the test scores, four one-way analyses of variance were computed. The F ratios for area indicated that geographic area was a significant source of variance for observed nutrition practices. Homemakers in Cook County had lower scores in the practice of nutrition concepts than did homemakers in Madison-St. Clair and Pulaski-Alexander counties. However, homemakers in Cook County scored higher on knowledge of food cost purchasing concepts than homemakers in the other two counties. An explanation of this could be that the higher cost of living in a large metropolitan area could be reflected in the homemakers' responses.

Inspection of the analyses of variance related to age indicated that

homemakers under thirty scored higher on practice of food cost concepts than older homemakers. Additionally homemakers under thirty and over fifty scored higher on food preference concepts.

Homemakers enrolled less than one year scored higher on practices of food cost and nutrition concepts than homemakers in the program one or more years. Additionally, homemakers with two or less children scored higher on practices of food cost, nutrition and food preference concepts. These two differences may be a function more of the unequal sample groups represented in the analyses than these differences.

The final section of the findings reports the testing of the spiral processes for the existence of a hierarchical structure of consumer behavior related to purchasing food. The results showed a slight indication of a hierarchy within the first three of the four major processes. However, no evidence of a hierarchy was found with the twelve processes.

SUMMARY

Consumer education is vital for all people because of the competency it can provide in dealing with alternatives and decisions in the marketplace. The American consumer lives in a free enterprise system with the opportunity of considering many alternatives, however, the consumer finds that the marketplace is becoming more impersonal and he is often intimidated by its operations. Although the consumer makes demands and gets services that make life more convenient, the consumer is also faced with products that are increasingly more technical, making them difficult to select, use and evaluate. As a result, the consumer is often confused concerning what alternatives are appropriate and finds that it is not always easy to determine who is responsible for a problem or to know where to go for assistance. Neither is it always easy to distinguish between honest and reputable practices and those that are unethical and fraudulent in the marketplace.

A revival of the consumer movement has brought public demands for information legislation and enforcement. Although consumer legislation and improved enforcement procedures are powerful weapons in the fight for consumer justice, they have only been as effective as an aware and informed public has made them.

The four buyer's bill of rights--to safety, to be informed, to choose and to be heard--now includes a fifth, the right to consumer education, as proclaimed by President Gerald R. Ford. This fifth

right is to ensure that consumers will have assistance to plan and obtain maximum use of their resources.

Marketers and psychologists have developed models for analyzing consumer behavior, however only recently have educators begun to develop models of consumer behavior to serve as frameworks for consumer education curriculum development.

In response to the U.S. Office of Education's request for materials to help learners function in their roles as consumers, Murphy and Associates (1974) developed consumer curriculum modules. The purpose was to develop flexible teaching curriculum modules in consumer education which could be adapted by teachers to serve a variety of learners of varying ages, socioeconomic levels, cultural backgrounds and lifestyles.

A review of marketing, psychological and educational models did not reveal any models which had been tested with a specific subject area to more accurately delineate consumer behavior.

Therefore, the major focus of this study was to test a specific consumer subject area with the Consumer Education Modules A Spiral-Process Approach developed by Murphy et al. (1974). The specific objectives were to develop a matrix of concepts and food purchasing behaviors based on the four spiral processes as delineated in the consumer education modules; to develop an achievement test to measure knowledge and comprehension in the subject area of purchasing food, reflecting the four processes: inquiry, valuing, decision and action; to develop an observation checklist to assess actual food

purchasing behaviors, to assess respondents, competencies of food purchasing behaviors to both instruments; to investigate the relationship between selected demographic variables and the scores on the instruments; and to test and evaluate the four processes for the existence of a hierarchical structure of consumer behavior related to purchasing food.

Subjects were 376 randomly selected low-income homemakers enrolled in the University of Illinois Extension Service, Consumer and Homemaking Program (CHEP), from Cook, Madison-St. Clair and Pulaski-Alexander Counties.

The matrix of consumer behavior developed for this study was based on the framework of the Spiral-Process Approach as presented by Murphy et al (1974). The Spiral Process Approach consisted of four major processes: inquiry, valuing, decision, and action. Each major process had six subprocesses: recognize, consider, collect, organize, analyze, and evaluate.

In order to utilize the framework of the Spiral-Process Approach to develop a subject area matrix, it was necessary to identify a specific consumer education content area. The content area identified from consumer education curriculum guidelines was marketplace alternatives for consumers. The specific subject area of purchasing food was selected. From a review of consumer research studies three recurring concepts were selected: food cost, nutrition, and food preference. The content area and concepts were reviewed and accepted by consumer education specialists.

Food purchasing behaviors based on the three concepts and only three of the spiral processes comprised the matrix. The behaviors were reviewed and accepted by food and nutrition and consumer education specialists.

Situational statements based on the food purchasing behaviors were written. From these situations two instruments were developed: The Food Purchasing Behavior Interview (achievement test) and The Food Purchasing Behavior Observation Checklist.

The forty-two item achievement test was designed to assess the food purchasing knowledge of homemakers. The achievement test items were validated for content and construct validity by food and nutrition and consumer education specialists. The instrument was pre-tested in Des Moines, Iowa and in Chicago, Illinois. Corrections and revisions were made.

The 29-item observation checklist was based on the knowledge items from the achievement test. It was developed to record observed food purchasing practices of homemakers.

Data were collected during October 1975. The researcher traveled to the three counties in Illinois which had the Consumer and Homemaking Program (CHEP). Forty-seven paraprofessional program assistants from CHEP were trained by the researcher to administer the achievement test to 376 homemakers. One homemaker did not respond to this test. The 375 achievement test instruments were returned within two weeks to the researcher. Additionally, during the training sessions, the program assistants recorded observed

food purchasing practices of the 376 homemakers on the Food Purchasing Observation Checklist. These observations checklists were collected by the researcher.

Data from the instruments were coded, keypunched and analyzed. The range, mean, standard deviations, were calculated and the reliability was estimated using the Kuder-Richardson Formula 20 for the achievement test items. Difficulty levels and discrimination indices were also computed.

Frequencies and percentages for items from both instruments were reported. Descriptive comparisons for selected items were indicated and intercorrelations among variables were computed. A number of significant correlations were found between subscores. Significant positive correlations between .41 and .54 were found between the subscores of cost, nutrition and preference for the observation checklist and significant correlations between .72 and .85 were found between each subscore and the total score on the checklist. Positive correlations were found between cost and nutrition and nutrition and preference subscores on the interview. Each of the three subscores on the interview were significantly correlated with the total score on the interview. To study the effects of the demographic variables on the test scores, four one-way analyses of variance were computed. The demographic variables were area, age length of time in program, and number of children.

The F ratios for geographic area indicated that area was a significant source of variance for nutrition on the observation

checklist. The means by area showed lower scores in the practice of nutrition-related concepts for homemakers in Cook County than homemakers in Madison-St. Clair and Pulaski-Alexander counties. Homemakers in Cook, had higher mean scores than homemakers in Madison-St. Clair and Pulaski-Alexander counties for food cost concepts.

The analysis of variance by age indicated that age was a significant source of variance for food cost and food preferences. Homemakers under thirty years of age scored higher on practices related to food cost than older homemakers. However, homemakers under thirty and over fifty had higher mean scores for observed food preference concepts.

The length of time in the program was a significant source of variance for practices of food cost and nutrition concepts. Homemakers enrolled less than one year had higher mean scores for food cost, and nutrition concepts than homemakers in the program one or more years.

The F ratios for number of children in the program showed that children were a significant source of variance for practices of food cost, nutrition and food preference concepts. Homemakers with two or less children had slightly higher mean scores than homemakers with more children.

The four major processes: inquiry, valuing, decision, and action, and the three subprocesses: recognize, consider, and analyze, were tested to ascertain the existence of a hierarchical

structure. The findings showed that only a slight indication of a hierarchical pattern existed between the first three major processes. No evidence of a hierarchy was found in the combined major and sub-processes.

In summary, interpretation of the findings of the Food Purchasing Interview (achievement test), suggest that additional learning opportunities should be planned to give homemakers more experiences in using less expensive alternative foods. Homemakers need additional experiences in comparison shopping and in comprehending the use of the unit pricing system. Although the findings suggest that homemakers were using nutritional foods, it appeared that experiences emphasizing nutritional values of alternative foods could be of value.

The majority of homemakers scored lower on knowledge of food cost, nutrition and food preference concepts, however the findings indicated slightly higher scores for observed practices of food cost, nutrition and food preference concepts.

The results also indicated that homemakers preferred to register their own consumer complaints or problems, and did not indicate an interest in collective action for changes related to food for the community.

Several conclusions were made based upon the results of this study. First, homemakers were aware of the effect of rising cost on food budgets, however they need additional learning experiences in: selecting less expensive foods, using substitute foods, comparing prices, and comprehending and using unit pricing systems.

Second, homemakers need additional information concerning nutritional values of substitute foods. Third, homemakers need additional exposure to a variety of "new" foods and different methods of preparation. Finally, homemakers need to comprehend the positive concept of collective consumer action within their communities.

Although the assessment of the Consumer Education Spiral-Process Approach, utilizing the subject area of food purchasing revealed only a slight indication of a hierarchical structure, the process does provide a framework for teaching consumer education concepts. It is recommended that this study be replicated with other subject areas using the Spiral-Process Approach.

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LITERATURE CITED

- Aaker, David., & George S. Day. Consumerism. New York: The Free Press, 1974.
- Beal, George M., Coward, E. Walter, Jr., & Brooks, Ralph M. Some Affects of Intangible Goals on Resource Development Programs. Journal of Community Development Society, 2, Issue 1, 1971, 48-58.
- Burgoyne. 1974 Food Shopping Habits Study. Cincinnati, Ohio: Burgoyne, Inc., 1974.
- Burton, John R. Teachers' Attitudes Toward Consumer Issues and Their Appraisal of the Educational Relevance of these Issues. Journal of Consumer Affairs, 1972, 6, 223-228.
- Cannon, Vonna McGuiness. Pilot Evaluation of Expanded Food and Nutrition Education Program in West Virginia., Masters Thesis, West Virginia University, Morgantown, August, 1970.
- Curry, Thrath C. Contributions of Home Economics to Student Understanding of Consumer Education Concepts. (Doctoral dissertation, University of Alabama, 1970). Dissertation Abstracts International, 1971, 31, 5284A. (University Microfilms No. 71-9074).
- Elliot, Elisabeth. A Model for Evaluating Educational Programs Aimed at Disadvantaged Families. Paper presented at the Adult Education Research Conference, Chicago, Illinois, April, 1972.
- Engel, James, David Kollat, & Roger Blackwell. Consumer Behavior. New York: Holt Rinehart and Winston, Inc., 1968.
- Engel, James, David Kollat, & Roger Blackwell. Consumer Behavior. New York: Holt, Rinehart and Winston, Inc., 1973.
- Family Circle Magazine. Today's Supermarket Shopper. New York: New York Times Company, 1975.
- Furrer, Ethelyn Creder. An Evaluation by a Partially Illustrated Test of Certain Competencies in Personal and Financial Management Possessed by Selected Senior High Students. (Doctoral dissertation, Pennsylvania State University, 1960). Dissertation Abstracts International, 1960, 21, 2532. (University Microfilms No. 61-00038).

- Gorden, Leland, & Stewart M. Lee. Economics for Consumers. New York: Van Nostrand Reinhold Company, 1972.
- Gronlund, Norman E. Measurement and Evaluation in Teaching. New York: Macmillan, 1971.
- Guttman, J. P. A New Approach to Factor Analysis: The Radex. In P. F. Lazarsfeld, ed., Mathematical Thinking in the Social Sciences. Glencoe, Illinois: Free Press, 1954.
- Holloway, Robert, & Robert Hancock. Marketing in a Changing Environment. New York: John Wiley and Sons, Inc., 1973.
- Hughes, Ruth Pierce. Measuring Relationships Among and Between Cognitive and Affective Behaviors in a Controlled Learning Situation. (Doctoral dissertation), Cornell University, 1969.
- Jelly, H. M. A Measurement and Interpretation of Money Management Understanding of Twelfth-Grade Students. (Doctoral dissertation, University of Cincinnati, 1958). Dissertation Abstracts International, 1958, 19, 2295. (University Microfilms No. 59-00328).
- Katona, George. The Powerful Consumer. New York: McGraw-Hill Book Company, Inc., 1960.
- Lazer, William. The Role of Models in Marketing. Journal of Marketing, April 1962, 26, 9-14.
- Litro, Robert Frank. Relationships Between the Social Position of High School Students and Their Consumer Attitudes and Understandings. (Doctoral dissertation, University of Connecticut, 1969). Dissertation Abstracts International, 1969, 30, 497A. (University Microfilms No. 69-12749).
- Lohr, Helen Meta. Consumer Economic Knowledge and Attitudes of Prospective Home Economics Teachers. (Doctoral dissertation, University of Illinois, 1961). Dissertation Abstracts International, 1961, 21, 3368. (University Microfilms No. 61-01640).
- Mancini, Marilyn C. Development of a Test on Investment Knowledge and Understanding. Unpublished M.S. Thesis. Pennsylvania State University, 1966.
- Markin, Ron J. Consumer Behavior. New York: Macmillan, Inc., 1974.

- McCall, Charlotte L. Development of a Test for Assessing Competency in Consumer Education. (Doctoral dissertation, Pennsylvania State University, 1973). Dissertation Abstracts International, 1973, 34, 4707A. (University Microfilms No. 744273).
- Murphy, Patricia, and Associates. Consumer Education Curriculum Modules A Spiral-Process Approach. Washington, D.C.: U.S. Government Printing Office, 1974.
- Nader, Ralph. Neglect of Consumer Education is Short Changing both Students and the Nation. Today's Education, September-October, 1975, 64, 37-39.
- Needham, Harper and Steers. The Shopping Crisis. New York: Needham, Harper and Steers Advertising, Inc., 1975.
- Nelson, Helson Y. & Jacoby, Gertrude P. Evaluation of Homemaking and Consumer Education for Low Income Adults Final Report Grant No. VEA 73-F3-242. Cornell University, Ithaca, New York: June 1973.
- Nicosia, Francesco. Consumer Decision Processes. New York: Prentice-Hall, Inc., 1966.
- Nicosia, Francesco. Consumer Research: Problems and Perspectives. Journal of Consumer Affairs, Summer 1969, 3, 9-25.
- Office of Consumer Affairs. An Approach to Consumer Education for Adults. Washington, D.C.: Author, 1973.
- Ogden, Russell Lee. The Construction and Standardization of an Achievement Test Designed to Measure Personal Financial Knowledge, Understandings, and Applications Possessed by Selected College Students. (Doctoral dissertation, Pennsylvania State University, 1964). Dissertation Abstracts International, 1965, 25, 4991. (University Microfilms No. 65-00249).
- President's Committee on Consumer Interests. Suggested Guidelines for Consumer Education K through 12. Washington, D.C.: Author, 1970.
- Schew, Charles D. Selected Social Psychological Models for Analyzing Buyers. Journal of Marketing, July, 1973, 37, 31-39.
- Schoenfeld, David. Adult Consumer Education in the Community. Mount Vernon, New York: Consumers Union of United States, Inc., 1973.

Student Counseling Service. Classroom Examination Scoring and Analysis Service. Ames, Iowa: Iowa State University, 1973.

Synectics Corporation. Evaluation of the Consumer and Homemaking Education Program. Allison Park, Pennsylvania: Synectics Corp., 1973.

Thomas, Lillie Ruth. A Comparative Study of the Effects of Course Organization on Achievement in Consumer Education Concepts. (Doctoral dissertation, Arizona State University, 1969). Dissertation Abstracts International, 1969, 30, 3655A. (University Microfilms No. 70-04884).

Thorndike, Robert L. Educational Measurement. Washington, D.C.: American Council on Education, 1974.

U.S. Department of Agriculture. Food Retailing in the Cleveland, Ohio Metropolitan Area. Washington, D.C.: Author, 1972.

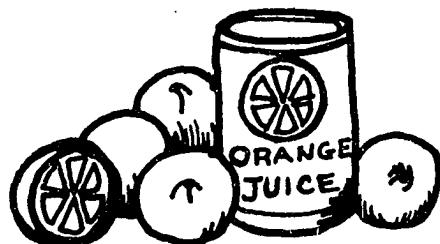
U.S. Office of Education. Pre-Guidelines for Consumer Education Projects. Washington, D.C.: Author, 1975.

Uhl, Joseph N., and Armstrong, Jan. Survey and evaluation of consumer education programs in the United States. Purdue Research Foundation, 1970. ERIC ED 038 549.

Yankelovich, Skelly and White. The General Mills American Family Report. Minneapolis, Minnesota: General Mills, Inc., 1975.

Yerka, Bettie Lee. Effectiveness of Paraprofessionals in Working with Low Income Families: An Experimental Study. (Doctoral dissertation), Syracuse University, 1974.

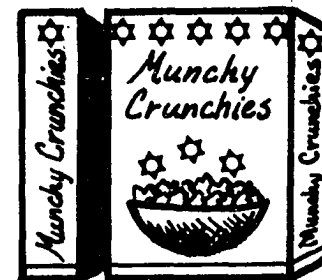
APPENDIX A: FOOD PURCHASING
BEHAVIOR INTERVIEW



Situation VIII

Growing children need fruits and vegetables which contain Vitamin C. Oranges are a good source of Vitamin C; however, today the price of a dozen oranges is more than Mrs. Brown can afford.

20. State the problem that Mrs. Brown is facing.
- providing foods with Vitamin C
 - the cost
 - Other: _____
21. What is another way to provide Vitamin C that may be lower in cost than fresh oranges?
- frozen orange juice
 - canned orange juice
 - Other: _____
22. What advantage would your suggestion to question 21 provide?
- lower in cost
 - similar nutrition
 - Other: _____



Situation IX

Mrs. Brown is aware that several children in the neighborhood, including her son, George, have been insisting that their mothers buy a new pre-sweetened cereal advertised on T.V. as Munchy Crunchies.

23. What would you do if you were Mrs. Brown?
- buy a more nutritious cereal
 - tell other mothers not to buy the advertised cereal
 - Other: _____
24. What should Mrs. Brown consider before making her decision?
- compare the cost of other cereals
 - talk to the other mothers
 - Other: _____
25. What is the advantage of your suggestion?
- a saving
 - improved nutrition for other children
 - Other: _____



Situation X

Mrs. Brown has five children. She realizes that dinner time is often not enjoyed. Sometimes the children do not finish dinner, but prefer to eat potato chips and drink cokes late in the evening. They often complain about the kinds of foods she cooks and talk about the foods they would like to eat.

26. What is Mrs. Brown's basic problem?

- a. not knowing what nutritious foods the children will eat
- b. finding nutritious snack foods
- c. Other: _____

27. How can Mrs. Brown find out what the family will learn to eat?

- a. by cooking a variety of foods
- b. by discussing family food likes and dislikes
- c. Other: _____

17. What do you think is Mrs. Brown's major concern?

- a. the kind of eggs to buy
- b. getting the most nutrition for her money
- c. Other: _____

18. What is another substitute she might consider?

- a. dry beans
- b. other meat substitutes
- c. Other: _____

19. What advantage could the substitute provide?

- a. lower cost
- b. similar nutrition
- c. Other: _____



Situation VI

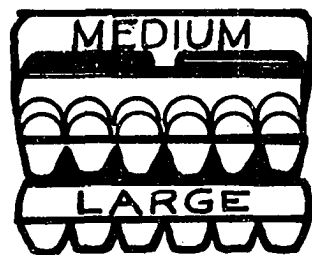
Mrs. Brown talked with her children and found that they did not like the cooked cereal she usually left for breakfast. However, on weekends they always ate what she fixed.

16. What do you think Mrs. Brown should do about getting her children to eat breakfast?

a. prepare nutritious foods they like

b. try new breakfast food ideas

c. Other: _____



Situation VII

Mrs. Brown wants her children to have the foods which will provide good nutrition and keep them healthy. She has read that eggs can be used as a less expensive substitute for meat. The supermarket sells eggs of various sizes and grades.



Situation XI

Mrs. Brown and the children developed the following list of the foods they like:

- | | |
|------------------|--------------------|
| 1. chicken | 8. celery |
| 2. tomatoes | 9. green beans |
| 3. greens | 10. sweet corn |
| 4. beefstew meat | 11. corn bread |
| 5. milk | 12. sweet potatoes |
| 6. bread | 13. cookies |
| 7. bean sprouts | |

28. Do you think the brown family would like chop suey?

a. yes

b. no

29. Why?

a. because they like the ingredients

b. because it is a new dish

c. Other: _____

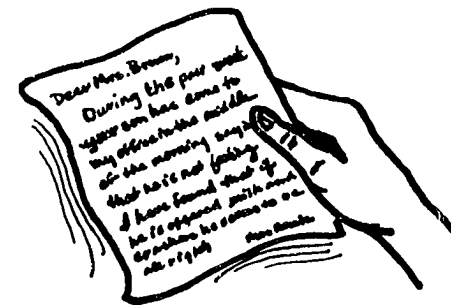


Situation XII

Mrs. Brown plans to use the list of foods the children prefer, however, she is concerned that rising prices might limit the opportunity to buy some of them. She qualifies for food stamps, but is hesitant about receiving them.

30. What would influence her decision to "get into" the food stamp program?

- a. rising costs
- b. lack of money
- c. Other: _____



Situation V

Mrs. Brown goes to work in the mornings and is not home when her children should eat breakfast. However, she leaves food for them each morning. Here is a paragraph from a note sent home by the school nurse.

"During the past week your son, George, has come to my office in the middle of the morning saying that he is not feeling well. I have found that if he is offered milk and crackers he seems to be all right."

14. What concerns would you have if you were Mrs. Brown?
- a. Is he eating breakfast?
 - b. Does he need more food in the morning?
 - c. Other: _____

15. What suggestion can you give to Mrs. Brown so that the children will eat breakfast before they go to school?

- a. feed the children before going to work
- b. prepare the kinds of foods they like
- c. Other: _____



Situation IV

Mrs. Brown and her neighbors had been using the unit pricing system in the supermarket to compare prices, and as a result had stretched their food dollars. However, last week the unit pricing service was discontinued.

11. What would you do?
- boycott
 - talk to the manager
 - Other: _____
12. What should you consider before making your decision?
- check to see if other stores have unit pricing systems
 - check to see how many people used the system
 - Other: _____
13. What is the advantage of your suggestion to question 12?
- saves time
 - saves energy
 - Other: _____



Situation XIII

Mrs. Brown talked with three neighbors about her desire to purchase the food her children want, and the problems she was experiencing. She observed that:

Mrs. Smith used food stamps to stretch her food dollar.

Mrs. Jones prefers to see that her children are well dressed, even if they do not get the right kinds of foods. She does not feel they ever go to bed hungry.

Mrs. Turner cooks only the foods her children want, because if she does not, the food is often wasted.

31. What things does each neighbor consider as being important?
- Mrs. Smith:
- getting the most for her money
 - the family food needs
 - Other: _____
32. Mrs. Jones:
- being well dressed
 - clothes
 - Other: _____

33. Mrs. Turner:

- a. saving rather than wasting food
- b. the family's likes and dislikes
- c. Other: _____

34. What effect do you think the situation of each of Mrs. Brown's neighbors would have on buying food for the family?

Mrs. Smith:

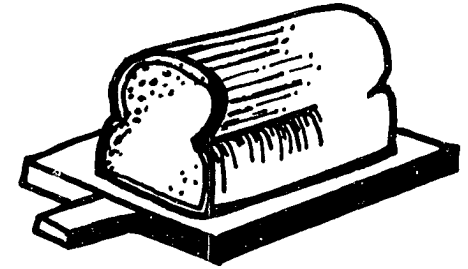
- a. more food
- b. better nutrition
- c. Other: _____

35. Mrs. Jones:

- a. little concern about food
- b. less money for food
- c. Other: _____

36. Mrs. Turner:

- a. limited food choices
- b. little variety in meals
- c. Other: _____



Situation III

A loaf of bread like most other foods continues to go up in price. Mrs. Brown has been thinking of making her own bread or buying day-old bread in order to cut costs and stay within her budget.

8. What is Mrs. Brown's major problem?

- a. the rising price of bread
- b. not enough time
- c. Other: _____

9. What does Mrs. Brown have to consider in making her decision?

- a. the available amount of money
- b. comparing the cost of baking and buying
- c. Other: _____

10. For Mrs. Brown's situation, which would you recommend? Why?

- a. making bread
- b. buying day-old bread
- c. Other: _____
- d. Why? _____

6. Mrs. Brown could go to another store, but what other way could she provide greens for her family?

a. buy another kind

b. grow greens

c. Other: _____

7. What is the major advantage of buying another type or form of greens (like frozen or canned: spinach, turnips, or collards)?

a. may cost less

b. similar nutrition

c. Other: _____



Situation XIV

Even with the family's help, Mrs. Brown identified only a few foods to purchase that everyone in her family would eat.

37. What concerns would you have if you were Mrs. Brown?

a. Why is the family not suggesting other foods?

b. Is something wrong with her cooking methods?

c. Other: _____

38. Besides keeping a list of well liked foods, what are some other ways of providing foods the family would eat?

a. experiment with new foods

b. use some new recipes

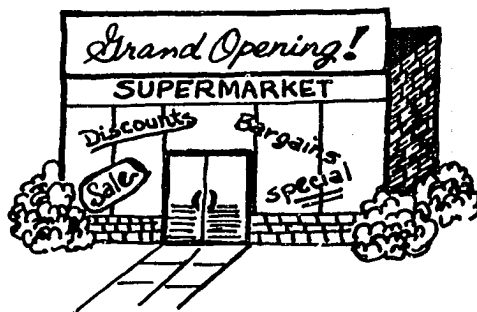
c. Other: _____

39. What is the advantage of your suggestion for Mrs. Brown?

a. they might learn to like new foods

b. adds variety

c. Other: _____



Situation XV

A new supermarket opened. It did not carry the kinds of vegetables Mrs. Brown and her friends liked. Mrs. Brown talked to the manager about the situation. The manager replied that he ordered only the foods recommended by the main office in New York.

40. What would you suggest that Mrs. Brown do?
- write a letter to the New York office
 - organize a group of citizens to meet with the manger
 - Other: _____
41. What should Mrs. Brown consider before making her decision?
- the interest of other neighbors
 - other available stores
 - Other: _____

4. What is a major advantage of your answer to question 3?

- provides similar nutrition
- sometimes, lower in cost
- Other: _____



Situation II

The Brown family decided to have mustard greens for dinner. However, Mrs. Brown noticed the price of fresh mustard greens at the regular supermarket was up 5¢ per pound. Ads in the newspaper indicated that prices of mustard greens were less expensive at other but distant stores.

5. What may affect Mrs. Brown's decision to purchase mustard greens for the family?
- transportation cost
 - the price
 - Other: _____



Situation I

Mrs. Brown is on a limited budget. She has noticed that the price of fresh whole milk has gone up, and that the regular amount of milk that she buys for the family is gone within a few days.

1. What is her basic problem?
 - a. the cost of fresh whole milk
 - b. not enough money to buy milk
 - c. Other: _____

2. How can she provide milk for her family in spite of the rising cost?
 - a. use dry or powdered milk
 - b. mix 1/2 whole milk with 1/2 dry milk
 - c. Other: _____

3. What are other low cost ways to provide the food value of whole milk?
 - a. eat cheese
 - b. other dairy products
 - c. Other: _____

42. What is the advantage of your suggestion?
 - a. perhaps the neighbors don't care
 - b. other stores might sell the foods they want
 - c. Other: _____

Thank you for your help and your time.

FOOD PURCHASING BEHAVIOR INTERVIEW

Instructions to the Interviewer

In an attempt to study the food-purchasing behaviors of homemakers, we are asking several hundred women for their reactions as consumers to some hypothetical situations. Presented on the following pages are situations in story form. Each situation is followed by a series of questions.

You are to read the situation to your homemaker, making sure that she has (1) understood it, and then (2) read the questions to her. After each question are printed several sample answers that she might give. Please do not read the answers to her; let her offer her own answer. If she gives an answer similar to one of the printed answers, circle that answer; if she answers differently, please write her answer on the lines after the word "Other." If she gives more than one answer, place a "1" by her first answer, a "2" by the second, and so on.

I would like to thank you again for your help and cooperation. This study would not be possible without you.

Program assistant's name: _____

Number: _____

Homemaker's name: _____

Number: _____

FOOD PURCHASING BEHAVIOR INTERVIEW



Iowa State University Department of Home Economics Education
and University of Illinois Cooperative Extension Service Fall, 1975
Herma B. Williams, Coordinator

APPENDIX B: ITEM ANALYSIS FOR
FOOD PURCHASING
BEHAVIOR INTERVIEW

24	309	61a	1	16	.13	.40
25	230	129a	8	34	.19	.57
26	298	118a	7	31	.21	.53
27	124	249a	1	66	.18	.49
28	322a	51	0	86	.22	.36
29	267a	96	10	71	.24	.53
30	192a	174	3	51	.21	.55
31	267a	103	1	71	.25	.48
32	278a	93	2	74	.24	.46
33	228	139a	4	37	.01	.53
34	271a	95	2	72	.16	.49
35	270	94a	7	25	.04	.51
36	203a	164	6	54	.20	.54
37	161a	204	8	43	.22	.55
38	127a	243	3	34	.14	.51
39	228a	141	1	61	.09	.52
40	162	191a	18	51	.09	.60
41	166a	204	5	44	.29	.52
42	128a	241	5	34	.15	.51

^aPreferred response.

Note: a,b,c columns did not always total 375 because of nonresponse.

APPENDIX C: FOOD PURCHASING
BEHAVIOR CHECKLIST

FOOD PURCHASING BEHAVIOR CHECKLIST

Instructions: Based on your observation, please answer the following questions.

	Yes	No
I. Cost		
1. Makes and uses a budget	_____	_____
2. Uses dry milk	_____	_____
3. Compares cost between fresh, frozen and canned foods	_____	_____
4. Makes an effort to buy "specials"	_____	_____
5. Substitutes one food for another if price is too high	_____	_____
6. Compares store brand with name brand	_____	_____
7. Compares the cost of home baked and purchased baked foods	_____	_____
8. Uses food stamps to stretch the food dollar	_____	_____
9. Figures out the cost per serving	_____	_____
10. Uses unit pricing system in store	_____	_____
11. Supplements the family food budget with a garden	_____	_____
12. Buys the size of food item which is economical for the family size	_____	_____

II. Nutrition

	Yes	No
13. Looks for dates on food items	_____	_____
14. Plans meals to fit in the Basic Four	_____	_____
15. Purchases foods for specific food value (for example: oranges for Vitamin C)	_____	_____
16. Reads labels	_____	_____
17. Uses leftovers	_____	_____
18. Buys food the family needs even if they are not preferred	_____	_____
19. Buys foods that are in season	_____	_____
20. Buys nutritious snack foods	_____	_____
21. Talks to the manager if there is a problem in the grocery store	_____	_____
22. Buys nutritious breakfast cereals	_____	_____

III. Preference

	Yes	No
--	-----	----

- | | | |
|---|-------|-------|
| 23. Prepares a grocery list | _____ | _____ |
| 24. Involves the family in planning meals | _____ | _____ |
| 25. Prefers to buy convenience foods like T.V. dinners, cake mixes, frozen pizzas | _____ | _____ |
| 26. Often buys snacks like cokes and potato chips | _____ | _____ |
| 27. Experiments by cooking new foods | _____ | _____ |
| 28. Gets a rain check when necessary | _____ | _____ |
| 29. Asks store manager to stock food the community people want | _____ | _____ |

Thank you for your cooperation.

4. Length of homemaker's time in the program:

Less than one year _____

One year _____

Two years _____

Three years _____

Four or more years _____

5. Number of children homemaker has at home:

None _____	One _____	Two _____
Three _____	Four _____	Five _____
Six _____	Seven _____	Eight _____
Nine _____	Ten or more _____	

COMMENTS:

GENERAL INFORMATION

Instructions: Fill in or check the answer in the space provided.

1. Program assistant's name: _____

Number: _____

2. Homemaker's name: _____

Number: _____

3. Age group of homemaker:

Under 25 _____

25-30 _____

31-35 _____

36-40 _____

41-45 _____

46-50 _____

Over 50 _____

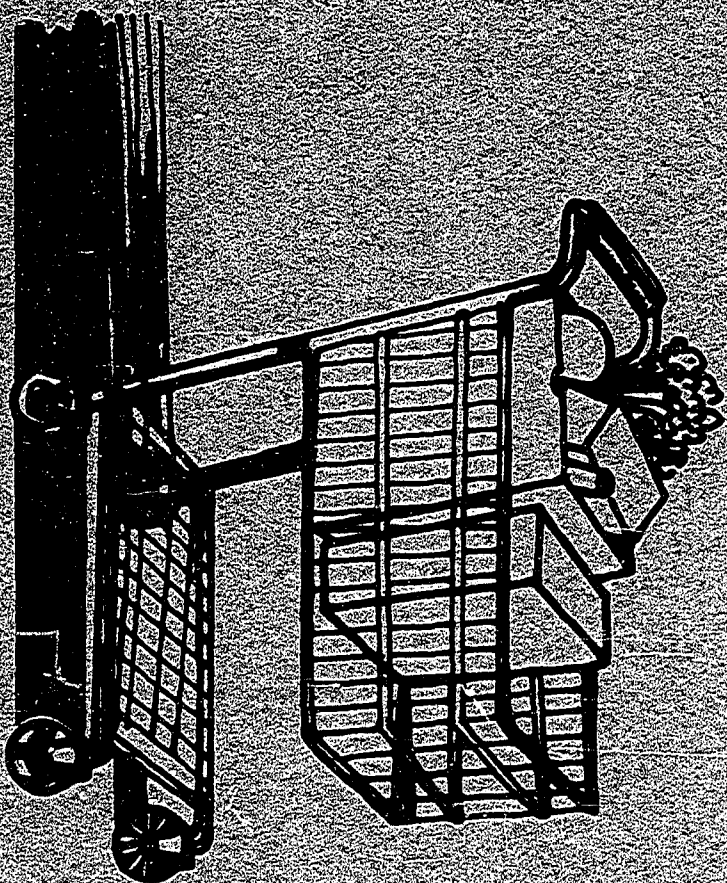
FOOD PURCHASING BEHAVIOR CHECKLIST

Instructions to the Program Assistant:

In an attempt to measure the food purchasing behaviors of homemakers, we would like for you to fill out the information requested in this booklet. First, answer the general background questions. Next, check YES or NO to the series of questions on the checklist for each homemaker selected.

Thank you for your help and cooperation. This study would not be possible without you.

FOOD PURCHASING BEHAVIOR CHECKLIST



Iowa State University Department of Home Economics Education
and University of Illinois Cooperative Extension Service Fall, 1975
Herna B. Williams, Coordinator

APPENDIX D: ITEM ANALYSIS FOR
FOOD PURCHASING BEHAVIOR
OBSERVATION CHECKLIST

Table D-1. Item analysis for food purchasing behavior observation checklist; N = 376

Item	Option selected			
	Yes	No	%R	St Dev
1	242	132	64	.49
2	175	196	47	.52
3	245	130	65	.48
4	323	52	86	.35
5	307	67	82	.39
6	246	126	65	.49
7	183	193	49	.50
8	295	80	79	.41
9	63	310	17	.41
10	51	322	14	.38
11	155	220	41	.50
12	338	36	90	.30
13	209	167	56	.50
14	273	103	73	.45
15	279	97	74	.44
16	251	124	69	.47
17	352	21	94	.25
18	196	180	51	.50
19	305	67	81	.40
20	233	140	62	.50
21	231	144	61	.49
22	303	56	81	.43
23	297	78	79	.41
24	194	180	52	.51
25	151	222	40	.51
26	222	151	59	.50
27	226	146	60	.51
28	230	145	61	.49
29	165	210	44	.50

APPENDIX E: INTERCORRELATIONS OF TWELVE
PROCESSES OF THE FOOD
PURCHASING BEHAVIORS MATRIX

Table E-1. Intercorrelations^a of twelve processes of the food purchasing behaviors matrix based on 376 observations

		1	2	3	4	5	6	7	8	9	10	11	12
INQUIRY	1												
	2	12											
	3	-01	03										
VALUING	4	-08	11	11									
	5	11	13	15	11								
	6	05	-02	-01	01	04							
DECISION	7	09	00	13	01	11	14						
	8	12	19	05	-01	06	01	13					
	9	-03	17	06	11	00	06	10	13				
ACTION	10	04	00	-03	03	-04	05	07	04	-00			
	11	02	-03	-12	08	-02	-05	10	11	-04	15		
	12	04	09	-01	10	01	-04	10	06	03	04	30	

^aDecimal points have been omitted.

APPENDIX F: ITEM ANALYSIS - PRETEST
OF FOOD PURCHASING
BEHAVIOR INTERVIEW

Table F-1. Item analysis - pretest of food purchasing behavior interview; N = 24

Item	Option selected		Difficulty level	Discrimination index	St. Dev.
	a	b			
1	13a	10	57	.30	.50
2	18	6a	25	**	.43
3	11	13a	54	.30	.50
4	18a	6	75	.15	.43
5	4a	20	17	**	.37
6	17a	7	71	.34	.45
7	10a	14	42	**	.49
8	22a	2	92	.40	.28
9	8	16a	67	**	.47
10	5	19a	79	.33	.41
11	8	16a	67	.62	.47
12	10	14a	58	**	.49
13	14	10a	42	**	.49
14	18a	6	75	**	.43
15	18a	6	75	.24	.43
16	16a	8	67	.50	.47
17	7	15a	68	.74	.47
18	12	12a	50	.69	.50
19	9	15a	63	.45	.48
20	20a	4	83	.38	.37
21	22a	2	92	.26	.28
22	6	18a	75	.42	.43
23	12	12a	50	.32	.50

24	11	13 ^a	54	.09	.50
25	9	15 ^a	63	.47	.48
26	20	4 ^a	17	.46	.37
27	10	14 ^a	58	.12	.49
28	23 ^a	1	96	**	.20
29	21 ^a	3	88	**	.33
30	19 ^a	5	79	.59	.41
31	20 ^a	4	83	**	.37
32	19 ^a	5	79	.38	.41
33	14	10 ^a	42	.21	.49
34	5 ^a	19	21	**	.41
35	8	16 ^a	67	.60	.47
36	16 ^a	8	67	.19	.47
37	14 ^a	10	58	.08	.49
38	20 ^a	4	83	.14	.37
39	14 ^a	10	58	.58	.49
40	14	10 ^a	42	.13	.49
41	16 ^a	6	73	.45	.45
42	14 ^a	9	61	.28	.49

^aPreferred response.

APPENDIX G: OPEN-ENDED RESPONSES
TO FOOD PURCHASING
BEHAVIOR INTERVIEW

Situation I

Mrs. Brown is on a limited budget. She has noticed that the price of fresh whole milk has gone up, and that the regular amount of milk that she buys for the family is gone within a few days.

Question 1: What is her basic problem?

Area I*

How to cut the budget and not leave out other items needed
 Needs to buy it on sale, when available
 Being able to stretch the milk to make it last longer (2)
 Ought to buy (use) nonfat (instant) dry milk
 Her children love milk and she also knows how good it is for them
 Cost of living has gone up
 Should use canned milk
 Mrs. Brown seems to be more worried about her budget than her family needs
 Price of milk has upset her food budget
 Milk

Area II*

Limit the amount of milk (2)
 Not buying the right kind of milk
 Doesn't buy enough milk
 Doesn't try to make it stretch
 Needs to start using (buying) powdered milk (in cooking)
 Needs to buy milk from country
 Cheaper milk has to be bought

Area III*

Most people do not understand unit pricing
 They drink too much milk (3)
 Should use dry milk
 Needs to mix whole and instant milk together
 Not sure what the cost will be
 Ought to stop buying it
 Should find milk substitutes
 Should limit to each person to a certain amount
 Using only one kind of milk

*Area I = Cook County; Area II = Madison-St. Clair County;
 Area III = Pulaski-Alexander County.

Question 2: How can she provide milk for her family in spite of the rising cost?

Area I

Try part-time work to help out for the month
Try to find a place where milk is cheaper and freeze it
Catch it on sale
Try buying skim
Her family does not like powdered milk (2)

Area II

Buy 2% milk--it's cheaper
Mix Pet Milk with water for cereals
Use canned milk
Buy milk from the country
Buy less milk (2)
WIC Program (Women, Infant and Children's Milk Program)
Comparison shopping (try to shop around)

Area III

Just don't buy milk
Use other milk sources
Try another shopping place and compare prices
Substitute something in its place
Cut down on other things to buy milk
Use canned milk for cooking
Use milk from a farm instead of the store
If it's gone, it's gone

Question 3: What are other low cost ways to provide the food value of whole milk?

Area I

Tea, hot chocolate with water
Buy foods with milk substance already included
Buy ice cream

Area II

Use canned or instant milk (3)
Make puddings of milk
Use casseroles
Serve meat

Use chocolate milk
Cook eggs
Buy ice cream

Area III

Use canned milk
Try different kinds of juices
Use substitutes (2)
Use sources of similar value
Serve similar products
Homemaker willing to do without other things to have milk
Substitute malt chocolate drink
Puddings made with milk
Buy ice cream
Butter could substitute sometimes

Question 4: What is a major advantage of your answer to Question 3?

Area I

Low in cost is most important
Cheese is a good substitute
Eggs with some milk in them is cheaper
Butter has part of what is in milk

Area II

Save on milk
Goes farther

Area III

Just don't care for milk
Family likes cheese foods
Rather have milk for family and do without something
The milk wouldn't go as far
Wouldn't be that much advantage

Situation II

The Brown family decided to have mustard greens for dinner. However, Mrs. Brown noticed the price of fresh mustard greens at the regular supermarket was up 5¢ per pound. Ads in the newspaper indicated that prices of mustard greens were less expensive at other but distant stores.

Question 5: What may affect Mrs. Brown's decision to purchase mustard greens for the family?

Area I

Family budget
Price of other fresh greens
Price of canned greens

Area II

Cost of frozen and canned (2)
Quantity needed
She can try another store to see if she can get a better buy (2)
Chance to pick wild greens
Not the type the family likes the most

Area III

Family doesn't like mustard greens
Go to another store (if had to buy other articles also) (2)

Question 6: Mrs. Brown could go to another store, but what other way could she provide greens for her family?

Area I

Buy at the store in the neighborhood
Buy frozen greens (2)
Buy canned greens
Wait until the cost goes down
Won't eat greens at dinnertime
Buy wholesale
Go to another store

Area II

Use canned greens (if cheaper)
Freeze greens that are grown during summer

If they are lower in price
 Dislike
 Use frozen

Area III

I would buy the greens if I wanted them
 Freeze greens from own garden
 Get them from a gardener (2)
 Can greens (for out of season eating)
 Buy canned (2)
 Buy frozen
 Go pick some

Question 7: What is the major advantage of buying another type or form of greens (like frozen or canned: spinach, turnips, or collards)?

Area I

Don't have to be cleaned (2)
 Cooking time is less (2)
 Helps family budget
 Just as good
 Easy to prepare (2)

Area II

Fresher
 You would get more vitamins from the frozen greens (2)
 Storage is easier
 Canned are always in the stores

Area III

You might have a taste for greens
 I grow my greens every year (3)
 If you mix turnips and spinach together you get the taste of mustard greens
 Save trip to another store and save money
 Convenience--I like the push button (3)
 If they aren't in season you have to get canned ones
 Frozen could be bought ahead of time

Situation III

A loaf of bread like most other foods continues to go up in price. Mrs. Brown has been thinking of making her own bread or buying day-old bread in order to cut costs and stay within her budget.

Question 8: What is Mrs. Brown's major problem?

Area I

Learning how to bake own bread
 Cost of baking and buying
 That the cost of almost everything is going up
 Doesn't have money for loaf of bread every day

Area II

Maybe they're eating (using) too much bread
 She's probably buying name brand breads instead of store brands
 She should buy day old bread
 She comes out better by buying the day old bread if she doesn't have the time to make it at home
 If she doesn't have the proper storage I would say she would have to buy enough for the family to use right away
 Not watching the budget

Area III

She should buy day old bread
 Not enough money (2)
 Put day old bread in freezer
 She ought to make her own bread
 Needs to see how much the yeast and other ingredients cost
 Inflation
 To find out which is cheaper--day old or to make own bread
 Using only one type of bread

Question 9: What does Mrs. Brown have to consider in making her decision?

Area I

Can she bake enough bread to last a long time and freeze
 Doesn't have much time to bake bread but would like to (2)
 Whether she should start using another kind of food instead of bread

Area II

Whether to buy day old bread
 Consider the amount of bread the family uses
 Consider how to eliminate use of some bread
 She has to think of her time and her storage
 Would the family eat day old bread
 What is better for family
 Does she have storage space

Area III

Time she has
 The gas to cook it
 Effort
 Transportation to get bread frequently

Question 10: For Mrs. Brown's situation, which would you recommend?

Area I

Cut down on the breads served
 Buy biscuits in can

Area II

Buy store brand
 Catch a sale or special

Area III

She could freeze bread (keep longer and be cheaper)
 Save money by making bread at home

Why [making bread] ?

Area I

Nutritional value
 Saves money (cheaper) to cut down amount served
 Dough can be frozen
 Can cook canned biscuits at later time
 Some homemakers have enough time to make
 Fresher
 Her family may like homemade bread sometimes (2)
 Not sure how long day old bread has been on shelf
 Doesn't have to worry about buying

Area II

Family won't eat day old bread so shouldn't buy it
 Can make more
 If homemaker has time
 Bread is cheaper during special sale days

Area III

Cheaper to make bread at home
 Home baked is fresh
 More nutritious when made at home
 Home made tastes better

Why [buying day-old bread]?

Area I

Saves time
 Saves money (cheaper)
 Can be frozen
 Homemaker lives near a bakery
 Homemaker doesn't have time to bake
 Just as good

Area II

Day-old can be frozen
 More for your money (2)
 Just as good
 Good toasted
 Can make dressing
 Easier than making bread (2)
 Saves time
 Has been enriched
 Same nutritional value as fresh loaves

Area III

Easier than making bread
 Store close by to get day-old
 Just as good
 Kids like it better
 Cheaper--saves money (2)
 Can be frozen
 No need to use gas for cooking
 Doesn't know how to bake bread
 Saves time

Situation IV

Mrs. Brown and her neighbors had been using the unit pricing system in the supermarket to compare prices, and as a result had stretched their food dollars. However, last week the unit pricing service was discontinued.

Question 11: What would you do?

Area I

Talk with other homemakers in the community
 Buy less
 Make out menus for the week
 Look for sales
 Use coupons
 Budget myself
 Compare prices
 Wouldn't do anything
 Use old pricing system (2)
 Write president of supermarket for reason

Area II

Don't know (not familiar with it) anything about it (unit pricing)
 Make a list before you go shopping for food
 Find the place where they have the cheapest hamburger
 Sit down and figure it out myself
 I would visit other stores to see if they had unit pricing
 Go by old unit pricing
 Get a petition
 Let it pass
 Would not use unit pricing

Area III

Compare prices (at other stores)
 Nothing, don't understand unit pricing (5)
 Do without a lot of stuff
 You can still compare the brands
 Use own guide about pricing
 Buy brand wanted
 Figure out my own way to compare

Question 12: What should you consider before making your decision?

Area I

Study the unit price the way it was at first
 Wouldn't bother (2)
 Go to another store
 Find out what unit prices are
 Find out why the store stopped the system

Area II

See how far I have to drive to another store
 Don't know
 Find out if money is saved by unit pricing
 Size of family
 Reasons why it was taken out (2)
 How to figure own prices
 Nothing
 Other conveniences that another store has that uses unit pricing

Area III

If it helps stretch the dollar
 Really don't have time to study unit pricing
 Try to see how much certain things cost without unit price
 Check prices at other stores (2)
 Other advantages at another store
 Does not apply to me (no comment) (2)
 Whether or not I am willing to try if system was operating
 Don't understand question
 How I could substitute food
 Whether or not I really used it
 Comparing my regular shopping with unit pricing
 Making a grocery list and sticking to it is just as helpful
 Think about the time and energy saved by shopping in another store
 Figure out if it is cheaper to try another store
 See how much money I have to spend regardless of what store
 I go to

Question 13: What is the advantage of your suggestion to Question 12?

Area I

May save money
 Could shop at another store with unit pricing
 Homemaker doesn't understand unit pricing

Would have the overall view before making decision
 Maybe the store discontinued it because the fact that prices
 change so much that they too discontinued it
 Won't save time or energy because of telephone work and trouble
 getting to other stores
 Would know if others are interested
 Would be prepared to change supermarkets
 If this store doesn't continue the system you know where to
 find it

Area II

Understanding the system
 I don't know the details of the system
 Don't know (2)
 Saves money
 Helps me stay within budget
 May get more hamburger at low cost
 Would know if other people don't use it
 The system may not be good if most stores have stopped it
 I would be helping myself
 I could maybe save money if other stores are using the system
 I am doing what I think is best
 Peace of mind
 Store manager will know people are concerned and maybe will do
 something about it
 Give store time to reconsider or will lose trade
 Everyone should know how to check oz., etc.
 Not interested
 Helps you to decide where to shop
 Helps you shop for bargains
 Neighbors and friends get together to see how to get manager
 to reconsider
 This is one way to see if it is worth the effort
 Saves you from embarrassment

Area III

Saves money
 Helpful when trying to make your food money go farther
 Really never thought about it
 Never used unit price information (2)
 It helps to shop around
 Does not apply to me (no comment)
 Could be a better way of shopping
 I need to continue in the way I shop--it works for me
 Don't know
 Still get nutrition you need
 Budget it set (2)

Didn't know how far money would go
When you compare prices usually you profit from it

Situation V

Mrs. Brown goes to work in the mornings and is not home when her children should eat breakfast. However, she leaves food for them each morning. Here is a paragraph from a note sent home by the school nurse.

"During the past week your son, George, has come to my office in the middle of the morning saying that he is not feeling well. I have found that if he is offered milk and crackers he seems to be all right."

Question 14: What concerns would you have if you were Mrs. Brown?

Area I

Is he eating a nutritional breakfast
Is he sick
Should I try to prepare something else

Area II

I would check to see if he liked what I was fixing him for breakfast
He might not have been liking what she was fixing for him
How I could find out if he's eating sweets on the way to school
How to improve variety in breakfasts
Need for supervision and how to manage that
Needs hot breakfast and how to manage that before going to work

Area III

Is he eating what she fixes or other things that are not good for him (2)
Maybe he is coming down with something (2)
The food is cold, but how could I manage to give him a hot breakfast
Planning something else George would eat that is right for him
In the first place Mrs. Brown's place is in the home; she should consider other working hours
Managing time to stay there and fixing the children's food

Question 15: What suggestion can you give to Mrs. Brown so that the children will eat breakfast before they go to school?

Area I

Depends on the time she leaves for work
 Find out if they have been eating breakfast and if not then why (2)
 Try to give them foods they like that are also nutritious and healthy for them
 Try something different

Area II

Have an older child see what George eats
 Leave food on table then check to see what is left
 Consider what is good for them
 Explain that he needs to eat breakfast
 Prepare more different kinds of breakfast foods

Area III

Check with the doctor
 Ask the older child to see that all eat what is left for their breakfast
 Have the older child warm the breakfast foods
 Leave someone to watch over them at breakfast time
 Give them something different--cold (hot) cereal isn't good
 Get another kind of job so she can be there at breakfast time
 Depends on the kid--she could talk to him or the nurse
 Stay until they eat (2)
 Give them a variety of breakfast foods
 Put food in oven to keep warm
 Have nurse check to see if George ate breakfast
 Doesn't know
 If food is put on table children out to have sense enough to eat it

Situation VI

Mrs. Brown talked with her children and found that they did not like the cooked cereal she usually left for breakfast. However, on weekends they always ate what she fixed.

Question 16: What do you think Mrs. Brown should do about getting her children to eat breakfast?

Area I

Find out what the children like and fix food they'll eat (3)
Try cooking same cereal as on weekends

Area II

Fix same things she does on weekends
Eat with them
Let them suggest what cereal they want
Let kids learn to cook
Maybe the cereal she left was cold. The cereal she prepares while being at home is still warm; figure out a safe way for them to use warm milk over cereal (2)
Feed them herself before leaving

Area III

Let them eat before she goes to work
They didn't want the cereal because it was cold, needs to plan how to give them warm foods (5)
Give (leave) (serve) them cold cereal (2)
Give them eggs
Use fruit
Teach them to cook--if old enough
Give them same as on weekends
Get up, fix it and make them eat it before she leaves for work

Situation VII

Mrs. Brown wants her children to have the foods which will provide good nutrition and keep them healthy. She has read that eggs can be used as a less expensive substitute for meat. The supermarket sells eggs of various sizes and grades.

Question 17: What do you think is Mrs. Brown's major concern?

Area I

Small eggs are as good and nutritious as the large ones
Price of eggs
Giving family nutritional meals
Saving money
Keeping her kids healthy
Cooking eggs so often that they will get tired of them

Area II

The cost of eggs (the price)
Variety in the diet
To know if eating less eggs and more meat would be best for them

Area III

Her family
How many to prepare
Whether too many substitutes for meat is good for them

Question 18: What is another substitute she might consider?

Area I

Peanut butter
Casseroles
Cheese
Fish
Health food

Area II

Peanut butter
Cheese

Area III

It is according to what meal she is feeding them

Potatoes

Serve rice

Grits

Peanut butter

Cereal

Fruit

Cheese

I don't know

Milk

Butter

Bacon and sausage

Question 19: What advantage could the substitute provide?

Area I

One dish

Area II

It gives a lot more (nutrition)

Area III

They might learn to like other (different) foods (if they tried them)

If they like cereal better they would come nearer eating and not wasting it

Fills us up--a good dish

I don't know

Easier to prepare

Still staying in budget

Eat in different ways

Something children can eat anytime

Situation VIII

Growing children need fruits and vegetables which contain Vitamin C. Oranges are a good source of Vitamin C; however, today the price of a dozen oranges is more than Mrs. Brown can afford.

Question 20: State the problem that Mrs. Brown is facing.

Area I

Deciding whether to use frozen orange juice

Area II

Knowing what substitutes to use for oranges

How to decide whether to go to frozen or canned orange juice (2)

To find out if grapefruit be just as good for them

Deciding whether to buy vitamin C tablets instead of oranges

Area III

Getting the right fruit for them

Inflation

Trying to learn what to substitute

Deciding if buying Tang is economical

Question 21: What is another way to provide Vitamin C that may be lower in cost than fresh oranges?

Area I

Citrus preserves would be OK instead of oranges

Fortified juices with vitamin C added

Buy vitamin C at the drug store

Powdered juice

Kool-Aid

Use Tang

Wholesale oranges could be a solution if you have storage

Area II

Orange drink

Vitamin C tablets

Grapefruit

Use Tang

Different foods with Vitamin C

Vegetables with Vitamin C
 Powder with Vitamin C added
 Tomato juice
 Look for sales
 Look for coupons

Area III

Use vegetables that have Vitamin C in them
 Use Tang
 Use grapefruit
 Use other fruit juices

Question 22: What advantage would your suggestion to Question 21 provide?

Area I

Lower in cost and better when you don't have enough money to get oranges

Area II

Would keep longer (in storage) (2)
 The time to make juice is possible for some homemakers
 Could use lots of tomatoes in different forms throughout the year

Area III

Can always have a supply on hand
 Several servings per can
 Easier to store
 Easier to prepare
 Still within budget
 Already fixed
 Goes farther
 Good for you

Situation IX

Mrs. Brown is aware that several children in the neighborhood, including her son, George, have been insisting that their mothers buy a new presweetened cereal advertised on TV as Munchy Crunchies.

Question 23: What would you do if you were Mrs. Brown?

Area I

If other parents ask then give them your opinion
 Try (buy) them
 Buy it one time (2)
 Buy on trial basis (of one week)
 Check m.c. for nutritional value
 Would not buy it
 Check the cereal out
 Explain that what tastes good may not be nutritious
 Supplement the cereal with other foods (2)
 Try to satisfy the children (2)
 Would depend on the children and if they liked that cereal (2)
 Check (compare) the prices
 Try to find out what other mothers think
 See if there's a coupon that offers a discount

Area II

Buy it and let them starve till they eat it
 Let them have it (buy it)
 Try the new cereal
 Try to work out by alternating new and the usual cooked cereal
 Would consider prices (cost)
 Wouldn't buy it (if couldn't afford it)
 If had the money would buy the new cereal
 Try to tell George that pre-sweetened cereals are not always good
 Explain that lots of times they are just advertising to sell it so it may not be the best buy
 I would use the same cereal and save money because the pre-sweetened is more expensive
 I would buy what I could afford that gives us the same nutrition
 Check the nutritional value
 Check amount of sugar; if mostly sugar I wouldn't buy it
 Explain to children it costs too much and is not as nutritious
 Buy cheapest cereals
 Explain that whatever I decide is best (2)
 Discuss problem with other mothers if possible
 Try to make a substitute cereal equal to the advertised one

Area III

Buy what I could afford
 Let them eat cereal and fix them something else to go with
 it that has the missing nutrients not in the new cereal
 Buy what they wanted (2)
 Use both--a nutritious one and one of their choice
 Explain that many pre-sweetened cereals are more expensive
 plus less nutrition
 Try to reason with son that he should eat right (3)
 Would not buy the new cereal
 Would try to avoid the issue and buy another kind
 See if the new cereal has all nutrients in it (if so then
 decide that it is a good buy)
 Stay with cereal usually served
 Check cost and compare price with cereal have been eating

Question 24: What should Mrs. Brown consider before making her decision?

Area I

Consider number of servings per box
 Check on nutritional value (read label)
 See if her kids want the cereal
 Advantages of using the cereal they have been eating and have
 the kids add their own sugar

Area II

Whether to let them learn by experience
 Amount of vitamins in the cereal
 The need to see if they liked it
 Food value (nutrition)
 How to convince the boy why another one is just as good
 Ways to explain to the children what is good for them

Area III

Whether I can find a cereal they will eat that is good for
 them
 Her child
 Whether to get a nutritious cereal that she knows about
 How to compare nutritional value in different cereals
 How to discuss with her children the nutritional value ac-
 cording to prices of different cereals

Try to get her son to tell other children about what they
 should eat
 How to gain confidence of son
 Getting a small sized box first
 How good it is according to taste and nutritional value
 Maybe one time is all I have to buy it--he usually doesn't
 like it so it stops the asking
 I just wouldn't buy it
 Need to know they would be getting vitamins with whatever
 cereal is prepared
 Would buy new cereal if I had enough money

Question 25: What is the advantage of your suggestion?

Area I

Maybe children will eat what they like (5)
 Nutrition for children and family is important (2)
 Satisfaction for child and for you
 To find out if they will use it and how good it is
 Perhaps the new cereal provides similar nutrition

Area II

Before asking again they would be sure they liked it
 It is a different kind of cereal to give them and variety
 is important
 Stop sale of new cereal that is mostly sugar
 Would help children learn to save and to know what is good
 for them
 Important to allow children to experience some of the same
 things other children have, even though we are not well off
 Children may eat better

Area III

Children want whatever is talked about on TV
 Concern for your child (3)
 Not getting involved
 Better family relationship can take place
 There would be a lot of waste if he doesn't like them
 He would eat it, probably because it is sweet
 A lot less hassle about eating breakfast
 A headache, I could avoid
 If similar nutrition, it would be all right to buy
 Satisfy the children's curiosity about it

Situation X

Mrs. Brown has five children. She realizes that dinner time is often not enjoyed. Sometimes the children do not finish dinner, but prefer to eat potato chips and drink cokes late in the evening. They often complain about the kinds of foods she cooks and talk about the foods they would like to eat.

Question 26: What is Mrs. Brown's basic problem?

Area I

Realizing that too many snacks are very wasteful use of money
 Preparing nutritious dinner meals
 She should make them eat a variety of foods
 She needs a husband
 How to let the children eat potato chips and cokes if they
 also eat other things too

Area II

Needs to take away cokes and potato chips
 Eating habits need to be improved
 Does not know that too much sweets is bad for them
 Letting them have their way about what they eat
 She needs to sit down and talk to them about their budget
 Maybe the food doesn't look good and is not appealing to them
 Maybe she doesn't know how to cook
 Needs to cut out buying snacks and they'll eat their meals
 Buys too much junk
 Eat popcorn instead of chips
 Make snacks at home

Area III

Realize that children really don't know what's good for them
 Most children would prefer snacks but mothers have to help
 include other foods for dinner
 Needs to try other foods
 Needs to insist they eat the food she has prepared (even if
 it's a small amount)
 Getting them to eat what she prepares for their dinner (2)
 Maybe she thinks you can't cook different foods for all five
 children but they all like chips and coke
 Lack of communication
 Needs to make them eat regular meal or no potato chips
 Doesn't know how to handle five children

Question 27: How can Mrs. Brown find out what the family will learn to eat?

Area I

If it's good for them make them eat some of it

Area II

Sometimes it's best to talk to the family about the family budget

Learn to plan a menu and put her family on a budget. If she doesn't one will want one thing and the other will want something different

Area III

Let them help fix the food--a kid will eat anything they help fix

By watching them (2)

Just keep trying

Plan the menus more carefully

Situation XI

Mrs. Brown and the children developed the following list of the foods they like:

- | | |
|------------------|--------------------|
| 1. chicken | 8. celery |
| 2. tomatoes | 9. green beans |
| 3. greens | 10. sweet corn |
| 4. beefstew meat | 11. corn bread |
| 5. milk | 12. sweet potatoes |
| 6. bread | 13. cookies |
| 7. bean sprouts | |

Question 29: Why [do you think the Brown family would like or would not like chop suey]?

Area I

Because most black people seldom try to see what it tastes like

Because they talked to their mother about it

Might not like them mixed together

They don't like chop suey

Different kinds of vegetables would be a new experience

Area II

Just doesn't sound good
 Because they would not like the ingredients
 Don't like onions and wouldn't taste it
 Because they might taste different when mixed
 Because it's a snack
 Because they enjoyed eating it at a neighbor's house

Area III

Don't like the ingredients
 We don't go for dishes like this mixture
 It is a Chinese food
 Just don't like chop suey
 Too many different things mixed together
 Wouldn't like the way it looked
 More than one dish can be made of these ingredients, something
 else would be better
 Just don't care for it--never prepared it
 They would like soup better, the same ingredients are in it
 Don't like things mixed together (2)

Situation XII

Mrs. Brown plans to use the list of foods the children prefer; however, she is concerned that rising prices might limit the opportunity to buy some of them. She qualifies for food stamps, but is hesitant about receiving them.

Question 30: What would influence her decision to "get into" the food stamp program?

Area I

To know if the stamp program saves paying tax on foods
 Talking to someone who's in charge of food stamps and telling
 them her problems
 If she finds out if helps save money

Area II

Decide not to be ashamed of what neighbors would say
 Put the kids' welfare ahead of pride
 Find out if you don't pay taxes on foods when you go into the
 stamp program

To find out if she qualifies
 To learn about the bonus value
 To realize you will get more for your money (3)
 To find out that this is a way to increase opportunity to buy
 foods family wants to eat (2)

Area III

To see how stamps help you get more food with the money you
 have
 Find out how the amount of food would be cheaper
 If other mothers are using the food stamp program maybe she
 should use it
 Think about the advantages for the children
 Concern for her family
 How much it can help her
 To know about the extra bonus the program includes
 To know how this helps get right foods for children to protect
 their health

Situation XIII

Mrs. Brown talked with three neighbors about her desire to purchase
 food her children want, and the problems she was experiencing. She
 observed that:

Mrs. Smith used food stamps to stretch her food dollar.

Mrs. Jones prefers to see that her children are well dressed,
 even if they do not get the right kinds of foods. She does not
 feel they ever go to bed hungry.

Mrs. Turner cooks only the foods her children want, because
 if she does not, the food is often wasted.

Question 31: What things does each neighbor consider as being
 important?

Area I

[No responses]

Area II

To get food stamps

Area III

Food stamps helps me in buying my food
The children
To be able to cook more food

Question 32: What things does Mrs. Jones consider as being important?

Area I

What people might think about her

Area II

No comment

Area III

Go hungry but look nice
I'm not for Mrs. Jones. I can keep them clean and feed them
more
To "show off"
How they look to other people

Question 33: What things does Mrs. Turner consider as being important?

Area I

No comment

Area II

Nothing wrong with what Mrs. Turner does
Mrs. Turner is smart
She saves by getting what the children want but it may not be
the right kind of food (2)

Area III

Trying to keep up with the Jones
Doesn't care about their health
Isn't thinking of vitamins needed

Question 34: What effect do you think the situation of each of Mrs. Brown's neighbors would have on buying food for the family?

Area I

She would realize different values is a reason food is most important to some people

Area II

Could get her interested in the food stamp program
May go and try to receive food stamps (2)
Would buy food her children like

Area III

She would know that she can have more food by having food stamps
Food influence
She has better advice on using stamps and taking care of her family
She may know what is best for her family
She would know more about saving on food and prices

Question 35: What effect do you think the situation of Mrs. Jones would have on buying food for the family?

Area I

Stop buying so many clothes and give the children good meals
Concerned about her children being well dressed
Little concern about her children's health
Doesn't care

Area II

Bad influence
Need proper food rather than nice clothing (3)
Wrong opinion
No effect on Mrs. Brown
Trying to dress better
Couldn't buy as many clothes
Not important; situation varies

Area III

It seems she wants her family to dress well
 Maybe she could keep them dressed and keep food for them too
 Saving money
 More concern about looks
 I don't think I would ever like her
 Would rather dress than eat
 Mrs. Jones has to go--the eating is more important
 Negative influence toward shopping for food
 She doesn't care for their health
 Just considering own feelings

Question 36: What effect do you think the situation of Mrs. Turner would have on buying food for the family?

Area I

The likes and dislikes of her family

Area II

Wasn't interested in what was good for the kids
 Wouldn't be wasting food
 Good decision
 Trying to save money
 They would be getting only what they wanted and it wouldn't be good for them (2)
 Wasting money on junk food (2)
 Discuss serving leftovers prepared in different ways

Area III

Concerned (does not want to) about wasting good food
 Children's likes and dislikes
 If she would listen to the children she wouldn't cook too much
 The kids (only want junk) don't know what they should eat
 Mrs. Turner can't do just what the children want--the groceries won't last all month
 Not a wise food shopper--makes for spoiled kids
 She should balance their meals
 Advice not good--she probably has fat, sick kids
 Not wasting
 Saving money
 Better to fix what they like
 Not proper food for children
 Getting what she wants

Situation XIV

Even with the family's help, Mrs. Brown identified only a few foods to purchase that everyone in her family would eat.

Question 37: What concerns would you have if you were Mrs. Brown?

Area I

Must need the family's help in planning meals
 If what she is buying is really nutritious (2)
 Maybe the kids are too choosy
 Whether they eat too much junk
 If I need to try new recipes using foods the family likes
 Other kinds of food for her family
 The high cost of food and saving money
 Why don't I know about these other foods that other home-makers prepare

Area II

Getting something all will eat and stay within the budget
 Taking turns in getting foods they like
 How to plan balanced meals
 If that was the right kind of food to give them
 Reason they don't eat what you cooked
 Whether to buy other food
 Whether to try new food
 She wasn't able to buy some of the foods that her children enjoyed
 Maybe I need to sit down and talk to the family to see what foods they all like
 I would worry about them getting vitamins (balanced meal), etc.
 Not important; don't worry if they eat or not
 How to teach the family to like a variety of foods through the way I prepare new foods

Area III

How to afford what family wanted to eat
 How to handle their likes and dislikes of foods
 Doesn't have enough money to purchase food (2)
 Whether it is that I just want to cook certain foods
 Maybe they snack too much and are not hungry at meal time
 The things that cost less may need special recipes I don't have
 Try something new (else) (different)

Ask for some new foods or ideas about new food recipes (try new recipes) (3)

How to change eating habits

Buy the most healthful foods and how to persuade them to eat it

How to shop for bargains to buy food and stay on her budget

How to include the essentials and still provide meals that everyone likes

May worry about not getting right food

New ways to fix those few foods they would eat (2)

Figuring out what they want

They must learn that a family eats what's put on the table

Question 38: Besides keeping a list of well-liked foods, what are some other ways of providing foods the family would eat?

Area I

First discuss with the family that money for food is short

Try harder to find kinds of food they like

Use the same thing but in a new fashion

Area II

Go to restaurant or other people's houses, or if they watch TV, see what they like that wouldn't be expensive

Area III

Use the basic four to plan menus

Ask the family what they would like to eat

Just look at the store for ideas

Cook separate food for family members

Question 39: What is the advantage of your suggestion for Mrs. Brown?

Area I

Might get family to eat better

Area II

She might learn to stretch the food dollar and also feed them nutritious meals

Will help stretch the budget or food won't last

Area III

Save money (2)
 Could get better nutrition (2)
 Could get them to eat more of what they need
 Probably come up with one way they will eat and like it
 Keep from wasting (2)
 You would be fixing what they like
 Would make menus and budget come out right
 Family wouldn't eat foods together

Situation XV

A new supermarket opened. It did not carry the kinds of vegetables Mrs. Brown and her friends liked. Mrs. Brown talked to the manager about the situation. The manager replied that he ordered only the foods recommended by the main office in New York.

Question 40: What would you suggest that Mrs. Brown do?

Area I

Go to another store
 Go to another store if first two ways are not effective
 Ask manager to bring in vegetables they use or they won't trade at the store
 Organize a group of citizens to write the New York office (2)
 Find out why he ordered only what he was told to get

Area II

Try different brands to see if they like them (2)
 Go to a different store (2)
 Would continue to go to my (the) same store
 Ask manager to tell the New York office what we want

Area III

Stop shopping at that store (2)
 Compare products with other supermarkets (2)
 Use what is on hand
 Go back to grocery store where you shopped before the supermarket opened

Question 41: What should Mrs. Brown consider before making her decision?

Area I

Type of foods offered

Area II

Doesn't always carry what everyone likes

Be better to write to them than go to supermarket farther away

Prices (cost)

Transportation (2)

What other citizens would write

Service

Sale items

Go back to same store used before supermarket opened, see if it has what you like

Time and energy necessary for shopping

Area III

Price might be lower (2)

I would have to use things there if I couldn't go to another store

Go to another store (if he wouldn't get it for her)

Consider her family first (2)

Could I get everything at another store

Transportation (2)

Question 42: What is the advantage of your suggestion?

Area I

They might like new foods the new store offers

Organization to protest and write the store--it is effective sometimes

If the store wants good customers it should cooperate

I could still get what the family eats

Saving money

May get better grade of food for her family

We would have a store that serves local needs

Area II

Might find that family likes his products better than others
 Save by getting what you want rather than having to go to
 several stores

No sense in buying something they don't like

Variety usually possible at supermarket

Maybe saving on food (2)

The more people writing the better chance you have to get what
 we like

It's an advantage for the community if the store was in walk-
 ing distance--it saves time and gasoline

You choose the best store to save money and get the best buy

You already know the prices and what one can get there

Area III

If others care enough this is a way of getting what you need
 in the neighborhood

Might get neighbors interested in nutrition (better foods)

Less trouble for shoppers

Could go to another store and not cause disturbance

Would like to see if neighbors are concerned

Could get the food I wanted (need)

The New York office can put pressure on him to handle what
 we need

Keeping the family happy and getting the vegetables we like

This is one way to get the most for my family (2)

You would know which one costs less